

THE MEDICAL JOURNAL OF AUSTRALIA



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VOL. I.—16TH YEAR.

SYDNEY, SATURDAY, JANUARY 19, 1929.

No. 3.

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The Halford Oration.¹

GEORGE BRITTON HALFORD: HIS LIFE AND WORK.

By W. A. OSBORNE, M.B., Ch.B., D.Sc.,
Professor of Physiology, University of Melbourne.

I ESTEEM it a great honour to be asked to deliver in Australia's Capital the first Halford Oration. Filial affection and reverence in making this foundation must eventually attain their objects, the recognition of Professor Halford's great achievements in research and in establishing in Australia a type of medical education that time has shown to have been exceedingly sound, needing no subsequent reversals of policy, but rather endowed with the promise and potency of growth.

It is fitting that his name should be kept before the profession that owes him so much. If this address draws some attention to his worth and services, I shall feel that I have paid back a little of my own debt.

Australia does not fail to honour the memory of those pioneers who faced the perils of thirst, hunger and the ambush of savages, who set out undaunted across arid plains or heavily timbered valleys or threaded their way through the abysses of the great ranges. We rightly honour the men who opened pathways into the recesses of unexplored country and the women who met loneliness, monotony and privation unafraid.

In paying due tribute to those who showed physical courage and tenacity in facing the physically perilous, let us not forget that the intellectual pioneers of Australia played their part manfully, not, it is true, in danger of their lives or health, but with true courage and resolution nevertheless, with wide vision of the outcome of their efforts, undeterred by apathy or ridicule, building solidly so that their successors might attain greater heights and with less effort.

Of these pioneers was George Britton Halford.

To Sydney belongs the honour of establishing the first university in Australia, the *Act of Incorporation* receiving Royal Assent on October 1, 1850. The formal inauguration took place in 1852. Melbourne, considering her youth and small population, was naturally behind, but not so much behind, for the bill to establish and endow a university passed its second reading in the unicameral Legislative Council on January 7, 1853, only eighteen months after the District of Port Phillip, a portion of New South Wales, became the State of Victoria.

The formal inauguration occurred on April 13, 1855. But while Sydney has unquestioned priority in the bold resolve to found an Australian university, Melbourne can claim the distinction of establishing the first medical school. In June, 1855, Dr. Anthony Colling Brownless who had then been only three years in Australia, was appointed a member of the

Melbourne University Council and at once started an agitation for the formation of a medical school. He was ably supported by his colleagues in medical practice, but the difficulties at first seemed insuperable—the colony was small, the Treasury exiguous, whilst the Chancellor of the University, Sir Redmond Barry, was just as eager to start a school of law.

Deputation after deputation waited on the Government, receiving much sympathy, but no money. Truth to tell, at the date when Dr. Brownless became Vice-Chancellor, 1858, the University was at its lowest ebb as regards numbers of students entering and pursuing courses of study. Let me quote from a "Handbook to Australasia" by William Fairfax, published in 1859.

Present Position and Future Prospects of the University.

An elaborate machinery for educational purposes has been described; the question naturally remaining is, how has it worked? Those who judge only from what meets the eye may pronounce it to have failed, since the matriculated students at present attending the University lectures amount to thirteen only; and the annual entry which was 16 in 1855, and 7 in each of the following years, was in 1858 only 2. But in forming a judgment the special circumstances of the case must be borne in mind: In 1855, at the opening of the University, no examination was held, any who presented themselves were allowed to enter. The want of all previous training soon became evident; students gradually found that they could not come up to the standard of the annual examinations, till finally only four out of the sixteen remained to present themselves for the degree of B.A. at the end of three years. From the opening of the University till now the want of good large training schools has been felt, schools which the honours of the University should incite to emulation, and which should supply the University with well-prepared students. The institution of such schools as are presently to be described will meet this want; but we may fairly assume that but for the existence of the University, showing the deficiencies in education, they would never have been established.

At last in 1861 by a reduction of the request from £21,000 to £12,000 and by the generous action of the lecturers in law and engineering in relinquishing part of their salaries, the project was adopted. The first lecturer to be appointed was Dr. John Macadam who gave instruction in chemistry in a private laboratory. But every one realized that a professor was wanted who could take on the burden of organization and administration and establish the school on lines that would command world respect. The decision was made that the new chair should be that of Anatomy, Physiology and Pathology, and with great wisdom it was resolved that the position should be advertised in Britain and that the selection should be made by Dr. (afterwards Sir James) Paget, Professor of Anatomy, Physiology and Pathology at Saint Bartholomew's and by Professor (afterwards Sir Richard) Owen, one of the greatest comparative anatomists the world has seen. These two distinguished men fully realized the importance of their mission and made searching inquiries into the qualities of the applicants. Their letters to each other and to the Chancellor who was visiting England at the time, are extant and show what

¹ Delivered at Canberra, November 26, 1928.

efforts they made to avoid making any mistake. Amongst the applicants were, to use Dr. Paget's wording:

1. One of the most distinguished experimental physiologists of the day. His name would give distinction to any University.
2. A highly educated Doctor of Medicine of the University of Oxford—a gentleman of good private means, and good social standing.
3. A well known pathologist, a very estimable man formerly a teacher of anatomy.
4. Two who have had ample experience in the teaching of anatomy and all the other subjects required of the professor—who have made and kept museums.

After learning all the good points, the two selectors set inquiries going "to discover something damaging." The outcome of these efforts was a unanimous and vigorous recommendation of number 1, "one of the most distinguished experimental physiologists of the day." His name was George Britton Halford. The Chancellor, Sir Redmond Barry, immediately got in touch with the new professor and found him actively preparing for his new duties, indeed at considerable personal expense, for he had given up his private practice. I have a shrewd idea that Halford did not take the pompous Sir Redmond at Sir Redmond's own valuation. The Chancellor writes as follows to the then Vice-Chancellor, Dr. Brownless:

I conclude by saying that I sincerely trust that you will find him a conscientious, earnest, efficient, industrious man, tho' (sic) showy or shining abilities you are not to expect. These I might have had at the expense of the other which I esteem, and let me hope you consider I was right to be paramount.

Obviously the great Sir Redmond Barry had not the faintest glimmerings of appreciation of the brilliant experimental work which Halford had already published; he probably remained unappreciative to the end, for his was a legal and not a scientific mind. The following quotation from the Melbourne University Calendar of 1863-64 carries the story further:

In the report of last year it was announced that the Council had resolved to open a School of Medicine in the University, and had applied to Professors Owen and Paget, of London, to favour the Council with their assistance in selecting a gentleman of suitable attainments to fill the Chair of Anatomy, Physiology and Pathology.

To the request thus made those gentlemen were pleased to accede with a most gratifying alacrity. Without delay they instituted the necessary enquires, and finally, after scrutinising with much care the qualifications of several Candidates, they concurred in recommending for the appointment George Britton Halford, Esq., M.D., for some time Lecturer in the Grosvenor-place School of Medicine.

The recommendation was confirmed, and Dr. Halford embarked from England on 8th September, 1862, and arrived in this country on the 22nd day of December last.

Previous to his departure from England Dr. Halford was able to employ himself much to the furtherance of the interests of the University. His presence and active exertions enabled him to procure, upon terms more favourable than could have been expected by correspondence from this country, a considerable number of medical works, for the purchase of which a sum of £500 had been placed at his disposal.

In addition to this, by means of personal communication with members of his profession, he succeeded in obtaining donations to the Library of many works of scientific value,

as well as in receiving offers of contributions to the Museum and in eliciting expressions of sympathy with the Council in their endeavour to render the Medical School worthy of the reputation which they desire it should attain.

On the 1st of May the Lectures of the Medical School commenced.

It is necessary to state that the efforts of the Council to prepare in time for the accommodation of this gentleman a dwelling-house and appropriate lecture-rooms, have not hitherto been attended with success.

The University of Melbourne on Halford's arrival had only four other professors (those of Law, Classics, Natural Science and History and Political Economy) and five lecturers. It was certainly conscious of its motto "*Postera Crescam Laude*." I could give much numerical information concerning the University, but prefer to quote from a contemporary writer, an intelligent and observant Englishwoman, signing herself Clara Aspinall, whose book "Three Years in Melbourne" was published in London in 1862.

There is a University in Melbourne which is in high esteem. The Professors are, I believe, first-class men from Oxford, Cambridge and other Universities, and are extremely painstaking and indefatigable in their endeavours to instil into the minds of the graduates a love of pure learning.

I went to see the ceremony of conferring degrees of honour on the graduates *et cetera*; and, although it did not quite remind me of an Oxford Commemoration, it was nevertheless an interesting ceremony.

The Chancellor and Vice-Chancellor were gorgeously arrayed in robes of black velvet and gold, with shoes, buckles and hosen of the most courtly description.

I was struck with the great genius of the Chancellor, Sir Redmond Barry, in being able so well and quickly to compose (as he conferred on the numerous aspirants their respective degrees) a separate, impromptu, and most euphonious little speech, each one totally different from the others that had preceded it.

The University is an immense ecclesiastical-looking building, and contains the extensive and valuable public Museum. Each of the Professors has a suite of apartments within the building allotted to himself and family (if he happen to have one), which appear to be most comfortable quarters, and are so built that in summer they are quite proof against the hot winds.

The University stands in some acres of ground, and is well laid out with British trees, which (when grown) will form a delightfully umbrageous retreat for the professors and students.

The city to which the new professor was introduced had just completed a period of remarkable expansion and improvement. The confusion due to the gold discoveries had given place to order and constructive energies were everywhere manifest. I quote from "A History of the Colony of Victoria," by Henry Gyles Turner:

In the city of Melbourne during this seven years great strides had been made. The insanitary, half-paved, ill-lighted city in which Sir Henry Barkly set foot in 1856 had developed by the date of his departure into a bright bustling Metropolis. The few scattered oil lamps had given place to gas; an abundant supply of pure water, from the noble Yan Yean reservoir, was laid on to the houses; substantial buildings were everywhere in course of erection; and the handsome mansions and trim gardens of the well-to-do citizens were making picturesque and rapidly filling suburbs. The University and the Public Library had been started before his arrival, but he viewed with a genuine interest their steady progress and growing

usefulness. He saw the foundation of the National Art Gallery, with a modest vote of £1,000, in 1862; and the beginnings of scientific arrangement in the National Museum, under the charge of Professor McCoy. His undoubted leaning towards scientific research led him to take a prominent interest in the establishment of the Royal Society of Victoria, in the Acclimatisation or Zoological Society, and in the building and equipment of the National Observatory, which, under the control of Mr. Ellery, has done probably the most important astronomical work of the Southern Hemisphere.

Before describing the responsibilities and difficulties that faced Australia's first medical professor, and the energetic manner in which he confronted them, I would now give some brief biographical facts relating to his life prior to the Melbourne appointment.

George Britton Halford was born in Sussex on November 26, 1824. He commenced the study of medicine in 1842. In 1851 he became a member of the Royal College of Physicians and the next year a member of the Royal College of Surgeons. In 1854 he won his licentiate of the Society of Apothecaries and a doctorate of medicine at Saint Andrews—the latter degree of no great repute at the time. Varied medical experience was gained at Liverpool, Bridgnorth and London, but Halford's genius aspired to higher flights than medical practice. He was a true man of science, a born experimenter, dedicated to that great adventure—the discovery of the unknown. At a time when physiology was a poor relation of anatomy, Halford made anatomy lead up to physiology. Whilst still a student he displayed a marked bent towards research and in a field where he was soon to attract the attention of his contemporaries, namely, the mechanics of the heart's action. Here he introduced a method wholly new. Halford had already come under the influence of Professor (after Sir Richard) Owen, the great comparative anatomist. Time has not dealt kindly with Owen, but is likely to make restitution. The more brilliant generalizations of Huxley dazzled contemporaries and put Owen in the shade. Then, too, there occurred that painful encounter between Owen and Huxley in the great contest over evolution which Huxley by a direct challenge converted into a question of demonstrable fact and even of personal veracity. As the biological world knows, Huxley was right and Owen was wrong. This strange aberration of Owen has never been adequately explained; in recent years a rumour has gained currency that his actions were in conformance with Royal command. Nevertheless, Owen was a great anatomist, accurate, painstaking, wide in vision and never losing perspective in the enormous accumulation of detail which his own unaided efforts produced.

It was of him that it was said: Give him one bone and he will reconstruct the entire skeleton. Halford worshipped Owen with the fervour of a disciple. This attitude he never abandoned and in later years was to suffer accordingly when the star of Huxley was in the ascendant.

Another influence of formative character was that of Frank Buckland, the gifted natural historian. With him he frequently visited the Zoological Gardens in London. When Halford in 1857 became Lecturer on Anatomy at the Grosvenor Place School of Medicine he was closely associated with Dr. Benjamin Ward Richardson who was then the leader of England's physicians, and Spencer Wells, whose name survives in the useful forceps employed by every surgeon. I fail to detect in Halford's subsequent writings any trace of influence exerted upon him by Dr. Thudichum who in an immense mass of faulty bio-chemical researches managed to arrive at some remarkably correct results. But for the most brilliant contribution of Halford to science I can find no direct inspirer. That was in the domain of comparative physiology. Human physiology of a primitive character was taught in medical schools; Owen and Huxley, Gegenbaur and Haeckel were comparative anatomists of the highest rank, but Halford was not content with anatomy; his attention was ever riveted on function. The hearts of ostrich, apteryx, python, elephant, eagle and antelope had certain structural characters and peculiarities. What was their purpose, how did these hearts sound through a stethoscope when beating normally? As a reviewer of his heart work states in *The Lancet* of March 17, 1860:

These views are singularly strengthened by zoological analogies—a mode of enquiry which Dr. Halford appears to have been the first to institute.

From a careful reading of his early work I feel convinced that had he stayed at home and not been entrusted with the onerous and responsible task of founding Australia's first medical school, he would have developed into a great leader of comparative physiology of international authority and fame. Halford's medical experience in England was varied. He was House Surgeon to the Westminster Hospital, Senior House Surgeon to the Liverpool Royal Infirmary and Lunatic Asylum and Honorary Surgeon to the Bridgnorth Infirmary. When appointed to the Melbourne chair, he was in private practice in London and at the same time Lecturer on Anatomy at the Grosvenor Place School of Medicine.

Halford arrived in Melbourne, as stated, on December 22, 1862. He was accompanied by his wife, four little daughters and a baby boy born on the ship. At once he plunged into devising plans for the buildings of the Medical School. In these he was aided by Dr. Anthony Colling Brownless, the Vice-Chancellor. With fine optimism they prepared and had ready by January, 1863, plans for buildings much in excess of the needs of the time. Sir Redmond Barry with true legal caution objected to the undue dimensions of the plans of the dissecting room and succeeded in getting twenty feet taken from its length. The years as they passed justified Halford's wisdom. The medical school which many Melbourne doctors today remember well, was completed in May, 1865.

A curriculum of remarkable character had already been framed by the Council largely through the in-

fluence of Dr. Brownless. Professor Paget had recommended a three years' or at the most a four years' course of study, but Dr. Brownless realised that there was in the old country a belief that all matters, particularly educational, must be make-shift and below home standard in the colonies, so he determined that the Melbourne course of study should be above any such charge. With great courage, therefore, the Council resolved upon a five years' course with five searching examinations. This almost unheard of severity of discipline was wise, as we now see. Even today the belief that Australian University education must be haphazard and primitive is not extinct in the old country and gives considerable amusement to the Australian graduate who visits certain, to him, very ill-equipped medical schools in England. Halford accepted this curriculum, though he at once pointed out a serious omission; the fundamental sciences included chemistry, botany and zoology, but omitted natural philosophy which Halford regarded as the true basis of research in physiology. Halford's acceptance of the curriculum put an end to discussions which had been aroused by this topic. The Professorial Board did not see eye to eye with the Council, the practising profession had views different from both, whilst bitter anonymous letters appeared in the daily press attacking any and every curriculum and proclaiming that a University had never made any advance in medicine and never would.

On May 1, 1863, the new Professor gave his inaugural address to a large audience and Melbourne got its first impression of a man who not only had a reputation in science, but who could wield a flexible and vigorous English and could quote aptly from the poets. The little band of medical students he likened to the small English army at Agincourt and applied to them the immortal words that Shakespeare puts into the mouth of Henry V. The address is certainly a striking one, sound in judgement and attaining to eloquence. That the speaker had a wide acquaintance with English literature must have been obvious to his audience; that he had a strong personality and was not afraid to proclaim the truth that was in him, must also have been noted. I quote a short passage where he addresses his small band of students on their responsibilities.

You are called to a fellow-creature in the agonies of death; he points instinctively to his throat, for he scarcely sees you; his last gasp is at hand, and now he is insensible. You hesitate, and he is dead; but you operate, and he lives; and you return home thanking God for the power he has given you to save. Let us draw a veil over that man who from guilty incapacity, simply adds "Poor fellow, he is gone." My young friends, such scenes as these are not rare, and "lay not the flattering unction to your soul" that you will escape them. "Thou fool, this night it may be required of thee"; but if as students you are diligent, as practitioners you will have the strength to face them. In such terrific times, believe me, your resources "roused as with rage," will, like Prospero's ministers, speed to do your bidding, and your success will be as complete as your joy will be great.

In the following year, 1864, Halford's vigorous personality came in conflict with the Chancellor.

The circumstances have an amusing aspect and the incident was regarded by the London *Times* as worthy of record. A man named Harrison was tried on a murder charge, was found guilty and was sentenced to death. Halford was convinced that the man was insane and led an agitation for reprieve that enlivened the daily press. Three medical authorities appointed by the Government examined the condemned man and declared him sane. Halford was not satisfied and continued the agitation, for it was admitted that Harrison's brother and aunt had committed suicide whilst insane. I continue the narrative in the words of the *Times* correspondent:

The most demonstrative of these agitators was Professor Halford, the occupier of the anatomy chair at the Melbourne University. In return for his speculations on the state of the prisoner, the latter on the scaffold bequeathed his body to the Professor. The Professor, having expressed himself in common with other medical men to the effect that extensive lesion of the brain would on a *post mortem* examination certainly be disclosed, watched the gaol authorities, got access to the prisoner's body after execution, and made off with his head to the University rooms. The gaol surgeons were in consternation and appealed to the Sheriff. Law and justice were for a moment at fault. At length it was determined that the Sheriff, accompanied by a justice of peace and by a policeman, should forthwith proceed to the University and demand the brains. On arrival of the formidable Sheriff, six foot four inches in height, at Professor Halford's rooms, the Professor was found surrounded by medical men and with the brain before him, the dissecting then proceeding. The Sheriff demanded the public property. Professor Halford asserted that the brains were his by bequest of their former owner. The Sheriff contended, with much force, that the brains were "the government's brains," and that a convict on the scaffold had no property even in his own brains. Finally the gaol surgeons being present, it was arranged that the dissection should proceed, and at the end the brain was pronounced perfectly healthy.

When the Chancellor, Sir Redmond Barry, heard of these doings there were fulminations like those that followed the opening of the seventh vial. The law had been flouted and the University had been scandalized. In a letter to the errant professor the Chancellor excelled himself in magistral indignation and

With full spondaic toll
Poured forth his mighty soul.

The following extract gives the general tenor of the epistle:

I am informed that when the Sheriff called on you to deliver the brain to him a most unbecoming scene occurred, one indeed which I can hardly suffer myself to characterise as I feel. It has been stated to me that instead of yielding obedience to the direction of the Law Officers of the Crown you insisted on retaining the brain—asserting that Harrison had bequeathed his body to you. To me it is incomprehensible that you could have supposed it was in the power of a felon so to do and equally difficult for me to comprehend how you could have allowed yourself to be carried away to such an extent as to act in defiance of the directions of the Law Officers and openly resist the authority of the Sheriff in the execution of his duty. This proceeding has brought great scandal on the University.

In his reply Halford expressed regret that correspondence in the *Argus* should have been considered unseemly and promised not to repeat the offence. Concerning the incident at the medical school, he explained that he was unaware of the

status of the Sheriff; he knew only that an intrusion had taken place: "You are aware, Sir, that I am responsible to the Government for all human remains that come to the School; that they are in no one else's keeping or charge."

I imagine that Halford rather enjoyed the teapot storm, but I cannot picture the relations between the two as ever quite cordial again. That Barry with his special training and outlook could understand the attitude and enthusiasm of a man of science is not to be expected. Six years later a significant incident occurred. Halford was anxious to give a public lecture on protoplasm, but the Council, led by Barry, forbade it on the grounds that it would touch on religious principles. No doubt they considered the awful word to be redolent of Huxley, Tyndall and Herbert Spencer and yet Halford was an anti-Darwinian and very orthodox in his faith.

In 1863 Halford, as stated, started teaching anatomy and pathology in a shed at the back of his house in Madeline Street (now Swanston Street) to a class of three second year students. In addition to the burden of instruction in anatomy, physiology and pathology and the still greater one of nursing the infant school through its early troubles, he undertook research in quite new fields. His activities during the 'sixties were remarkable. His discoveries in the heart's action he described in three published lectures which are models of exposition—clear, humorous and literary.

But now a new enthusiasm was acquired, the anatomy of the hand, then the comparative anatomy of hand and foot in monkey and man. Huxley and Owen were at grips over evolution; Halford took the side of his hero Owen, but without temper, confining himself to facts and discarding animus. When he found that he could not support Owen in his famous controversy with Huxley over the comparative anatomy of the brain, he honestly admitted his position; but he attacked Huxley on the detail of hand and foot anatomy.

The use of magenta and other dyes in staining tissues so as to bring out microscopic features he adopted soon after the discovery of this method in Europe. He pursued it vigorously and even attempted *intra vitam* staining. The crania of Australian aboriginals occupied his leisure in the 'seventies and divided his attention with his last love in research, the action of snake venom.

In 1870 Halford was offered the Fellowship of the Royal College of Physicians of London, but he never enrolled. In this year he was at last given an assistant and in 1876 the Faculty of Medicine was created, he being elected Dean. The same year also witnessed the appearance in the Medical School of Mr. H. B. Allen (afterwards Professor, Sir Harry Allen) as Demonstrator of Anatomy, Pathologist to Melbourne Hospital and Sub-conservator of the University Museum of Anatomy and Pathology, an event of great significance in the history of the School.

At the end of 1880 Halford was granted leave of absence and visited England, there demonstrating the microscopical appearances of the blood of animals killed by snake venom. On his return to Melbourne in August, 1881, he prepared in cooperation with H. B. Allen a report on the Medical School urging important reforms and alterations including the division of his chair, the inclusion of natural philosophy as a compulsory subject and the necessity of new buildings, for so far there was no physiological laboratory for students' exercises in this subject. In 1882, Allen became Professor of Descriptive and Surgical Anatomy and Pathology to Halford's great relief, as he had now only to deal with physiology and histology. In 1886, he resigned the deanship and was succeeded by his brilliant pupil Professor Allen. Next year was marked by the entry of women students. There is no doubt that the presence of the fair sex rather cramped Halford's racy style in the delivery of his lectures, illustrated by witty anecdotes and descriptions of incidents from prize fights. But the University records show that he was consistently in favour of their admission as a right.

In 1889, Professor Allen left Melbourne to visit Europe and the deanship of the Faculty of Medicine was resumed by Professor Halford. This office he retained until 1896 when age and infirmities compelled him to resign from his University duties. This year is also important in the history of Melbourne's medical science through the arrival of Dr. C. J. Martin who entered upon research that was soon to command the attention of the learned world.

The later years of Halford's tenure of the chair were not happy. A large family (eleven children in all had been born) has its worries from the financial side, but it has its compensations. For it manages to gain a lot of amusement of its own devising and we have pleasant glimpses of the Professor busy at private theatricals and functioning as dramatist and stage manager. But youth, enthusiasm and the old vigour had gone and a generation of Melbourne doctors has memories chiefly of a man weary of his task, but they should realize that his weariness was the weariness of a Titan. I quote with pleasure from an account of the Melbourne Medical School written by Dr. R. R. Stawell for the Medical School Jubilee Celebrations in 1914.

At the time I entered my second year of medical education, Professor Halford was already showing the defects so frequently inseparable from advanced years. He was not then a hard worker, nor was he then, in the ordinary sense, a good teacher; but there was something always really "great" about the old professor; and, when he discussed with us the records of his original work of long ago, there was to be got from his lectures something splendid, and even inspiring. It was to a young medical student in those days a sudden personal introduction to the great realm of original research, and seemed to link Halford's work up with the great historical discoveries of medical science.

To me there is something exceedingly pathetic in the unpublished manuscripts of uncompleted researches on the comparative anatomy and physiology

of the heart which I have been privileged to see. The enthusiasm and industry are obvious.

But of what interest were such matters in a young raw community wanting immediate practical results? Men in medical practice are not usually sympathetic towards research detached, as they think, from the requirements of the day and this attitude is exaggerated when the community is youthful. There was no one in Melbourne with whom to discuss the problems of pure research as they arose, no one to appreciate what was done, no disciple in research to be inspired. Halford built up a great school of medical teaching, but he did not create a school of research. That was then a task beyond any man's power; the inspiration which at a later age would have actuated a band of pupils and imitators wilted under indifference and even hostility. Halford as an investigator was before his time.

Outside interests occupied little of his leisure, but he had great belief in the future of the coal mines of South Gippsland and was a director of the Jumbunna Coal Company.

The autumn of life drew slowly to its close. In 1907 he celebrated with his wife their golden wedding. Infirmities accumulated and on May 27, 1910, the founder of Australia's first Medical School passed away.

HALFORD'S RESEARCHES.

In dealing with Halford's original research, I will take first and contrary to chronological sequence that which emanated from Melbourne.

Man and the Monkey.

Dissections of the muscles of monkey and man and a detailed survey of the skeletons induced Halford to oppose Huxley in his attempt to demonstrate the affinities between the two. According to Halford the monkey was not like man, bimanous, but cheiropodous or hand-footed. There were other differences, he thought, sufficient to place man anatomically far apart from the apes, higher or lower. No doubt Halford magnified the importance of the detail, but feeling ran high at the time. This work did his reputation no service for Huxley had caught the enthusiastic support of the biological world. That there was something in his contention is shown by *The Lancet's* (December 12, 1863) four columns of hostile and not too fair criticism. Halford, like the elder Gosse, held conservatively to the orthodox attitude and suffered accordingly in the esteem of his contemporaries, but of his honesty and earnestness there can be no question. In his work on aboriginal crania he superintended the drawings of a Major Richard Shepherd which are certainly admirably done, and supplied descriptions which for succinctness could not be bettered. These drawings and the rubric must assuredly take a high position in Australian physical anthropological literature.

Snake Bite.

In his investigations on snake bite he was not always happy. At first he believed in the injection of ammonia as an unfailing remedy and advocated this by lecture and pamphlet. In later life he had to confess himself wrong. But in the midst of his experiments on snake venom he made an observation which had its importance been realized by contemporaries, might have quickened medical discovery by twenty years. The blood of an animal dying from snake bite or artificial injection of venom to his eye looked remarkably like the blood of a human being after death from cholera. In *The British Medical Journal* of July 20, 1867, in an article entitled "Experiments on the Poison of the Cobra-di-Capella" he writes:

I have many reasons for believing that the *materies morbi* of cholera is a nearly allied animal poison. If so may we not hope to prove something definite of the poisons of hydrophobia, smallpox, scarlet fever and indeed of all zymotic diseases?

He compares the action of venom with that of an enzyme like the ptyalin of the saliva. Now twenty years had to elapse before the suggestion was made that parasites injured the host through poisons or toxins. As usual Halford was a bit too far ahead of his time. The peculiar microscopical changes which he described in the blood after snake-bite, have not been observed as yet by others to my knowledge. That they were genuine is indicated by the fact that he was able to demonstrate the phenomenon to colleagues in England.

The Heart.

It is, however, in his researches on the heart that Halford's most brilliant contributions are to be found and which establish for him a permanent place in the gallery of medical investigators. I will take them in the following sequence:

Heart Sounds.

His first communication on the subject of heart sounds will be found in *The Lancet* of 1851, with the title "Original Experiment on the Sounds of the Heart." Here we have a medical student blossoming forth as a competent physiological experimenter. The thorax of an anesthetized dog was opened and the animal kept alive by artificial respiration with chloroformed air. When venous blood was prevented from entering the heart by the fingers or by forceps the two heart sounds ceased. Halford, therefore, supported the contention of Brakyn (another medical student by the way) that the first sound as well as the second is of valvular origin. Then followed a searching inquiry into the hearts of all sorts of animals, including fishes and reptiles as well as birds and mammals. His enthusiasm is observable in the following incident. Learning from Professor Owen that the heart of the apteryx had affinities with the mammalian rather than with the avian heart, he determined to listen to the heart sounds with the stethoscope.

As stealthily as thieves to their business, or as Tarquin to Lucrece, did the keeper and I approach the apteryx by night, he leading the way. Having secured her in his

arms she became easily pacified and unseen by her I placed my stethoscope to her chest, broad, without a keel, and listened for some time. Never was there a prettier result. The sounds were not like those of the eagle, for the first sound had resumed its mammalian length and *lub duc* was once more heard.

Here we have Halford seeking to obtain information of value in human medicine by means of the study of comparative physiology. The importance of this branch of knowledge is not yet realized by the medical world.

The Pericardium.

The pericardium not only encloses the heart, but it facilitates and regulates its movements. If you lay bare the heart of a mammal, you will be surprised how smoothly all goes on; but immediately the pericardium is laid open, the heart, seeming to lose all guiding power, takes on a tumultuous action. This is less seen in the bird, most so in the reptile.

He noted that the sounds become louder. He emphasized the fact that owing to the inextensibility and general fixity of the pericardium the volume of the heart as a whole undergoes little change.

A reciprocity or compensation exists between the auricles and ventricles.

Although the chambers of the heart are continually receiving and discharging their contents, yet this is so regulated as that the bulk of the contents of the pericardium (in which must be included the first portions of the aorta and pulmonary artery) is always the same (*The Lancet*, January 1, 1857).

The Fixity of the Apex.

The fixity of the apex was not merely deduced from anatomical considerations, but demonstrated by experiments. Long pins were thrust through the thoracic wall of a dog into apex and base of the heart and each had a fulcrum just outside the skin. The extent of the movement was measured. It was found:

When the ventricles contract the bases of the ventricles descend towards the apex and the auricles immediately follow. When the auricles contract, they recede in the opposite direction and the distended ventricles again occupy the space receded from by the contracting auricles.

The "Apex Beat."

The so-called apex beat has nothing to do with the apex which Halford showed is not tilted forward during ventricular contraction and does not strike the chest wall. He supported the views put forward theoretically by a Mr. Bryan, of Stowmarket, in *The Lancet* of February 8, 1834, according to whom the ventricle, passively distending in diastole, is flattened on one side against the internal chest wall; when contraction occurs this portion becomes convex and this accounts for the "apex beat."

The Action of Eddies.

The action of eddies prevents extreme eversion of the heart valves and facilitates closure so that the heart valves not only offer no resistance to normal flow, but show no "clack" on closing. Through eddy formation the flaps of the auriculo-ventricular valves are in apposition before systole

begins. An experiment illustrating this beautiful discovery is described as follows:

A bullock's heart was obtained, and the auricles cut away nearly as low down as the auriculo-ventricular openings. The cavities of the ventricles were well washed out and the coagula carefully removed. A vulcanized india-rubber tube of like diameter with the pulmonary artery was then attached by one extremity to the vessel, and by the other to a common forcing pump; water was then thrown into the pulmonary artery, and the semilunar valves tightly shut down—gentle pressure being maintained, in imitation of what takes place during life. The right ventricle being empty was in the same state as when the auricle is about to inject it. On pouring water into the ventricle the flaps of the auriculo-ventricular valve rose upon the surface of the fluid, until (the ventricle becoming fully distended) the valve formed a perfect septum between it and the auricle. The left side of the heart was tested in the same manner, and with results perfectly the same, notwithstanding the greater thickness of the valve, the larger size of the *musculi papillares* and the stronger *chordæ tendineæ*.

This experiment succeeds I find, even though the emergent artery is not distended under pressure. Each student in my Department carries out this experiment (we call it Halford's experiment) and is always impressed. Halford published the results of his investigations on the heart in various forms, repeating the same descriptions frequently. The best exposition is in his book "The Action and Sounds of the Heart," published by Churchill in 1860, which in my opinion ought to be reprinted. The next best will be found in three lectures published in *The Australian Medical Journal*, Volume IX, 1864.

Reading these articles, one is impressed with their modernity, by the absence of anything which an apologist would need to explain away or excuse as conforming with the views of the period. Halford's heart work took on the exactness of a research in natural philosophy, indeed that was his professed intention.

CONCLUSION.

I have dwelt at some length with Halford's research work of which personal study has made me form a very high opinion. I am aware that others will claim his organization of the Medical School as his greatest achievement and I will not contest their view. In the early 'eighties might be heard this song in Melbourne:

We're medical students all,
Prof. Halford is our father.

This later by a slight change of wording became the Melbourne University anthem. It expresses an undoubted fact which passing years should not allow us to forget. It was a courageous experiment, this attempt to create in a very young colony a fully equipped school of medicine. So many things could have gone wrong and been undone afterwards with great difficulty or not at all. A tradition of slipshod methods, of low standards in examinations, of lag in following the advances in the old world could easily have arisen under other guidance. But such did not occur. I know that the fine medical schools of Sydney and Adelaide will not disavow their debt

to Melbourne that first set an example. The proud position of Australia's three university schools of medicine and the high standard of proficiency and culture in the medical profession are assuredly monuments to George Britton Halford.

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NATIONAL INSURANCE NATIONALIZATION AND THE BRITISH MEDICAL ASSOCIATION.

By D. M. EMBELTON, M.D. (Melbourne),
Honorary Physician to Out-patients, Children's
Hospital, Melbourne.

THE activity of the Federal Government with regard to national insurance and of the State Government of Victoria in extending its function through the agency of the Charities Board will profoundly influence the practice of the medical profession in the near future. The end-results depend on our own initiative and foresight. And it is essential that all practitioners should be conversant with the facts.

It is suggested by the National Insurance Bill that the scheme be made applicable to all persons in receipt of salary or wages not exceeding £416 *per annum*,⁽¹⁾ with provision for an extension in the case of married men with dependants.

In 1921, 97.5% of wage and salary earners received less than £400 *per annum* and this group comprises more than two-thirds of the bread-winners.⁽²⁾

In addition, it is intended that the provisions of the insurance scheme will be made available in some way to people employed on their own account, employers in small businesses, domestic servants and adult dependants of the insured who are not employed.

Insurance provides sickness and invalidity benefits, but no medical benefits.

Medical Benefit.

The solvency of sickness and invalidity benefit funds depends on adequate preventive and therapeutic medical services being available to the insured. The Commonwealth Government is therefore logically committed to insure that these services are within easy financial reach of the insured. Existing agencies whereby treatment and prevention are conducted, have been closely examined by the Commissioners and thus the first progress report of the National Insurance Commission makes observations and recommendations as follow:⁽²⁾

The health of the people is paramount and should be dealt with by the Government on more scientific lines than at present.

A national health scheme should be instituted which will provide adequate medical treatment for the people.

That such a scheme be dissociated from the national insurance fund.

That the functions and objects of the Health Department be extended in such manner as will enable provision to be made as early as possible for the effective supervision of adequate medical services, especially with respect to midwifery.

It is natural that any such extension of function would enlist the cooperation of State agencies and constitutionally it is the only course at present open.

State Agencies and Their Extension.

Medical service extended to the people in Victoria will broadly correspond to that in other States of the Commonwealth. It is divided chiefly

E.A.Sq.-

* 100,000 POPULATION

* 10,000 OUTPATIENTS

* 2,500 INPATIENTS

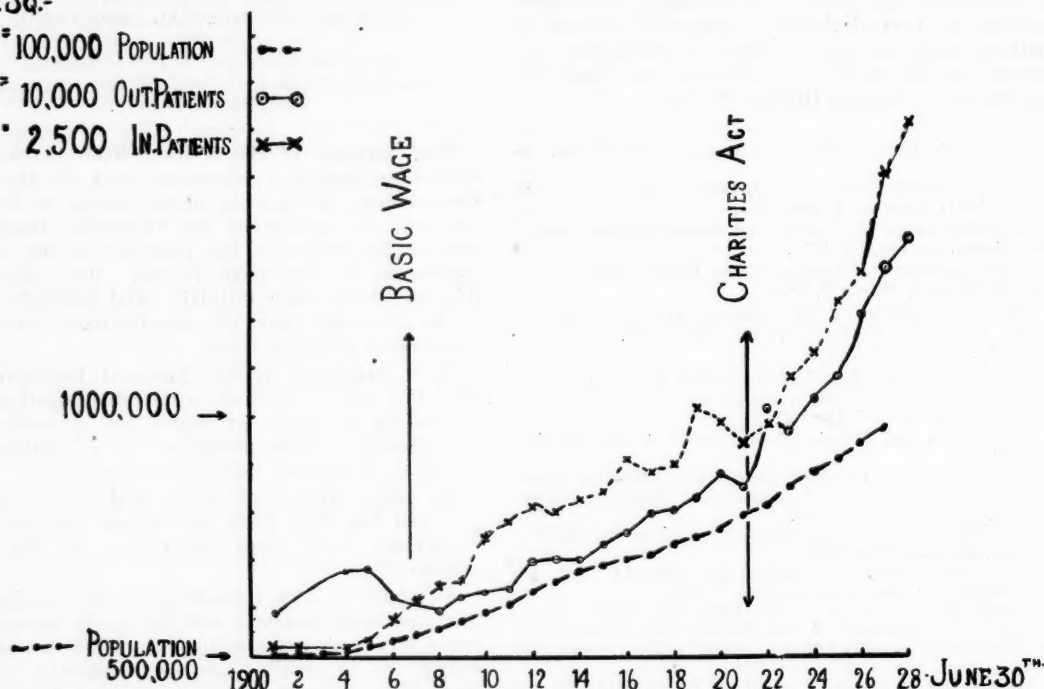


CHART I.

Showing in-patients admitted to and out-patients who attended at public hospitals in Melbourne, 1901 to June 30, 1928, plotted against the population of Melbourne. The hospital figures are supplied by the Charities Board of Victoria. The population figures are supplied by the Commonwealth Statist. The in-patients in 1901 numbered 12,839, the out-patients 58,632 and the population of Melbourne was 501,586. In 1928 the figures were 40,561, 137,275 and 975,160.

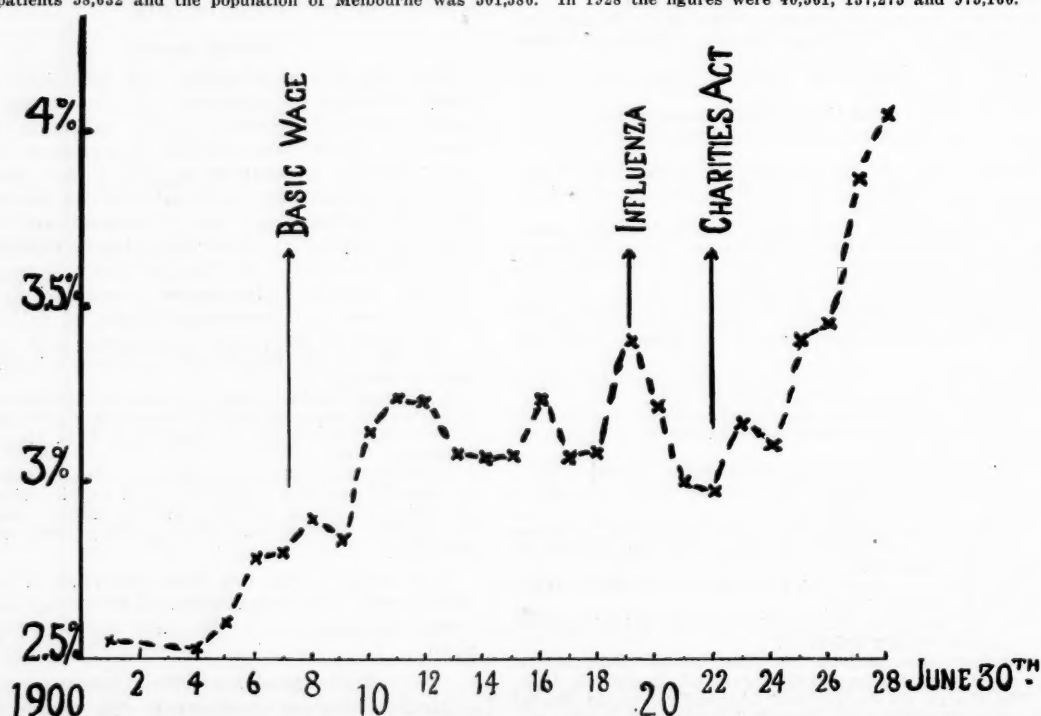


CHART II.

Showing the percentage of the population of Melbourne annually admitted as in-patients to public hospitals. Total admissions to hospitals, public and private, would seem to be about 8% of the population.

into (i) public charities, (ii) lodges, (iii) private medical attention.

Where activities of public charities and lodges increase more rapidly than the population, there must result a proportional reduction of private practice and medical income. Owing to exchange of members of the medical profession between city and country and between States of the Commonwealth, extension of free service in industrial suburbs causes a concentration of the profession in the city, in residential suburbs or in the country. An examination of Melbourne will perhaps be an index of metropolitan experience in the Commonwealth.

Existing Conditions.

The accompanying map will show that Melbourne is divided into areas, industrial (A) and residential (B). The residential area B contains 330,000 people,⁽⁴⁾ of whom 196 per 10,000 are annually admitted to public hospitals⁽⁵⁾ and regularly occupy 380 public hospital beds. Of the deaths in this group 19% occur in public hospitals.⁽⁶⁾ If community hospitals with intermediate beds are established in this area, it would probably release 200 public hospital beds now used by this area.

The industrial area, A, contains 600,000 people⁽⁴⁾ who occupy regularly 1,400 public hospital beds, 50% of their hospital nursing is done in public hospitals (see Appendix A); 30% are attended as public hospital outpatients (Appendix B) and 30% are lodge patients (Appendix C).

The Reason for Expansion.

The public demand, even by these concessions, however, has not been satisfied and more rapid expansion of gratuitous service is being arranged. The cause for this demand is not far to seek.

1. Payment today for labour is not according to work done, but necessities required and if adequate provision in the basic wage is not made for any

particular necessity, the inference is that such necessity will be otherwise provided. The actual provision in the wage^{(7) (8)}—fourpence halfpenny per week—is not sufficient for medical and nursing requirements of a basic wage earner with dependants, so that if such a wage earner seeks public hospital assistance, the question that arises is, not whether by thrift he can pay, but whether legally or morally payment can be expected of him? Unless he has accumulated wealth, no system of almoners can exclude him or his dependants from the admission which he asks for. While the wage

is uniform the responsibility of the wage earner is not; 42% of wage earners (18% of the industrial population) have no dependants and ample wages,⁽⁹⁾ while 30% of wage earners, that is, those with families to support, get 30% of industrial wages and support 60% of the industrial population. It is this latter group that suffers most of the illness and is short of means. Approximately 60% of the total population live on the basic wage and have little tangible wealth.

2. If adequate provision in the basic wage (two shillings per week) were made, no one is so sanguine as to think it would be applied to the purpose for which it was intended. Wage earners are tempted to spend their wages promptly on

luxuries or to purchase under the time payment system (Appendix D). The industrial population is too often in possession of goods and not money at the time of their illness, when wages often stop. Spending is approved by employers and unions because it is believed to create markets and employment.

3. There is a very clear connexion between the foregoing and the altered psychology which exists regarding public hospitals. The public hospitals are being regarded not as public charities, but as public conveniences wherein the industrial population is entitled to treatment for what it can afford at the time of illness and these



CHART III.
Map of Melbourne Suburbs.

hospitals thus are undertaking to supply without stigma to the patient any deficiency in "the wage." This is amplified by the legislature,⁽¹⁰⁾ also by the Charities' Board of Victoria⁽¹¹⁾ which holds that adequate hospital facilities should be available for all at the time of their illness, whatever provision they might have made, and by responsible hospital authorities⁽¹²⁾ who maintain that public hospitals are intended for the use of the industrial population. If nursing and medical attention are assured without provision, why save for such contingency, that is, absolution of the people from responsibility?

Thus three main factors create the necessity for further "charitable" service:

1. Wage regulated monthly by a tribunal regardless of responsibility.

2. Encouragement to spend and not to save.

3. Assurance of adequate hospital service whether they save or not. Under existing conditions the appeal for expansion can hardly be resisted, for experience is that the quasi necessitous are found in the beds, while the indigent stand beseeching on the doorstep and no means have been devised whereby the quasi necessitous will pay for themselves.

In mitigation of these difficulties the Charities Board has inaugurated a policy⁽¹³⁾ which aims to establish (i) community hospitals in the residential suburbs, (ii) one thousand more public hospital beds in Melbourne, (iii) suburban out-patient departments in industrial suburbs.

Community hospitals are anticipated in residential suburbs at some future date under the control and patronage of independent agencies.

One thousand more public hospital beds in Melbourne are being founded, 2,400 public hospital beds being thereby placed at the disposal of the industrial suburbs of 600,000 people (Appendix A). This will be sufficient for nearly all requirements, surgery, midwifery and acute medicine in large centralized hospitals.

If paying wards are opened in the public hospitals and owing to private hospital standardization all small suburban hospitals disappear, all serious work will be centralized. The prestige of the honorary staffs and distance from the suburb will place the industrial practitioner at a great disadvantage and surgery, midwifery and acute medicine will gradually disappear from his practice. His function will then be to conduct consultations at his surgery and domiciliary service. This service to lodge patients (30%) has till now been financed by the surgery and midwifery which public hospital expansion will in future largely provide for. And even now 30% of the industrial population attend public hospital out-patients' departments (Appendix B).

It is the intention of the Charities Board to establish out-patient departments in the suburbs. It is suggested that these units will provide day and night service, a medical and surgical clinic for minor ailments, for people unable to pay fees.

There will also be incorporated a tuberculosis department, antenatal, baby welfare clinics, visiting nurses' depôt, almoner department, dental unit, a clinical laboratory, X ray equipment and these centres may be used in addition as local consulting investigation centres for the use of private patients of local practising medical men. Their chief functions will be to relieve public hospital out-patient departments and to save the time of workmen and the expenses of their families in travelling. Two clinics have already begun in a humble way in Melbourne. It is intended that these units will act as feeders to the large central hospitals.

Rubinow's description⁽¹⁴⁾ (Appendix E) shows how desire for local and professional prestige, for appointment to central hospitals and better paying work cultivates competition for honorary appointment to dispensary and to public hospital staffs and it must follow with centralization and one thousand more public hospital beds that the profession will be found clamouring for appointments and benefits at the hands of "charities" and not "charities" being grateful for free service of the profession. There will be a great increase of honoraries aiming to be specialists, less paying work and fewer general practitioners.

Now previously it was pointed out that any extension of the function of the Federal Department of Health would enlist cooperation of State services to maintain solvency of funds. Two thousand four hundred public hospital beds (see Appendix A) will provide sufficient hospital accommodation for industrial suburbs; out-patient departments at public hospitals and in the suburbs will provide for ambulatory patients; but there is a big deficiency in the provision of the important domiciliary service.

At least 75% of the industrial suburban breadwinners will come under compulsory insurance. Of the breadwinners 30% are on the lodge, but not all of these will belong to the insured and the Commissioners have no guarantee that the balance of the 75% who are insured, will be able to make private provision for adequate medical attention.

"The standard of health insurance may well include the permission to make arrangements with dispensaries for treatment of patients provided that the work is paid for at rates satisfactory to the profession" (Rubinow). It is extremely simple for district nurses and patients to seek domiciliary service from the paid officers of dispensaries and for the authorities to concur in its provision and it is not conceivable that those facilities not provided for in the wage will be at the disposal of the breadwinner and not available to his wife and children.

For initial appointments to dispensaries remuneration may be satisfactory; but as more people avail themselves of this service and private work becomes more limited, popular economy will demand and competition within the profession enable revision of conditions and reduction of remuneration.

Herein, to maintain solvency of national insurance funds (Federal) and national health (State), we have a complete medical service. The people will be able to use it freely because the declared ideal of the Charities Board which controls this service is: "To arrange a policy which will insure that every person, irrespective of financial status, shall when ill have easy access to efficient hospital service with all its special branches" (THE MEDICAL JOURNAL OF AUSTRALIA, April 21, 1928, page 494).

Charities authorities, when approached, adopt the very reasonable attitude: "Can the medical profession submit a better plan?"

These policies are not figments of the imagination, but Federal and State policies which have been undergoing evolution since 1922 and are now being initiated.

Very few of the medical profession will accept nationalization with composure. It is a system which involves unrestricted work for restricted payment under political control and economy and which disregards the most important single factor in the practice of medicine—the personal relation of doctor and patient.

The British Medical Association exists to promote medical and allied sciences and maintain a high morality among the profession. Unless the means to achieve these ends remain inviolate, these ends cannot be attained and therefore the British Medical Association, delegating its authority to no one, has heretofore assumed responsibility to protect the economic condition of its members.

Inactivity now will give tacit consent to nationalization. A purely defensive policy will not maintain solvency of funds nor promote better service which by agents of Federal and State Governments has been declared necessary, but it will prejudice the good repute of the profession who will appear like a trade union bargaining for wages. Reason would therefore commit us to a progressive policy of helping the people collectively, as we do individually, to solve their problems and thereby meriting their appreciation and fair recompense for the security by us created and responsibilities by us discharged.

The Victorian Branch of the British Medical Association is not in a position to submit an alternative plan. Facts that would create a clear conception of requirements, have not been collected.

While to rectify deficiencies in government from within is the more commendable course to follow, it is significant that responsible members of the British Medical Association were prepared to repudiate publicly the sovereignty of the Association because the Branch was not exercising its function. The right of any body or association to govern is defined by the quality of its government and to claim loyalty the Association must justify the trust imposed.

The point will soon be reached where in the absence of a coordinated policy on the part of the Victorian Branch of the British Medical Association, surgeons, obstetricians and other sections will

be embarked willingly or otherwise on uncoordinated policies to everybody's detriment, including their own.

The generous sustained endeavour of many members of the Council is held in highest appreciation. Naturally they are among the busiest and most responsible members of the profession and it is not to be expected they can deliberately wander in the bypaths of economic investigation. Investigation requires expert statistical, financial and clerical assistance and funds to pay for it and withal considerable time.

The Charities Board enjoys the services of an able secretary in controlling activities of charities. Economic matters of the profession require the attention of a political secretary concentrated solely on this problem, under guidance of a small select committee. The time seems overdue for the Council to state the position clearly to the profession and to ask the profession for that support which will create a catholic solution of this question. This problem has been negotiated satisfactorily by no nation. We can be guided by no precedent.

Appendix A.

1. Of the industrial population of 600,000 50% are nursed in public hospitals.

Analysis of admissions to all public hospitals from each metropolitan municipality for 1926 shows the admission rates of suburbs per 10,000 population as follows:

The industrial area admissions are shown in the following table.

Group Ax.—375,000 people.		Group Ay.—230,000 people.	
Collingwood	600	Preston	310
Fitzroy	590	Northcote	286
Richmond	505	Footscray	275
Melbourne	485	Essendon	265
Prahran	449	Williamstown	230
Brunswick	400	Coburg	222
		Heidelberg	177
Average, 475 per 10,000.		Average, 256 per 10,000.	

The average number of admissions for the whole group is 400.

The residential area B contains 330,000 people and the average number of admissions to public hospitals is 196 per 10,000.

Brunswick has 400 admissions per 10,000, the average for the industrial group.

Of 51,000 people, 2,037 admissions occupy regularly at least 120 public hospital beds.

Careful local inquiry shows that in Brunswick the greatest possible number of private hospital beds regularly occupied, including central city private hospitals, is 117, that is, at present 4.7 beds per 1,000 are utilized, 50% at least of which are public.

Prahran contains 52,000 people. The number of admissions to hospitals is shown in the following table.

TABLE SHOWING NUMBER OF ADMISSIONS FROM PRAHRAN.

Type of Hospital.	Number of Patients Admitted.	Number per 10,000 of Population.	Average Beds Occupied.
Public	2,322	449	135
Private	1,779	342	91 ¹

¹ The figure 91 does not include a quota nursed in central city hospitals which should not exceed twenty beds.

The average total number of admissions is seen from this table to be 226 or 4.3 beds per thousand.

In outer industrial suburbs (Group Ay in map) with better domiciliary conditions and younger people about 50% of the nursing is done in public hospitals, but only three beds are occupied in central private hospitals for every thousand of population.

I would like to express my thanks to Dr. Fetherston, Dr. W. F. Brownell, Dr. Craig and Dr. Griffith for their help in collecting this information.

2. One thousand four hundred public hospital beds are at present occupied by persons from industrial suburbs or 2.3 beds per thousand. That this provides 50% of the nursing is shown thus.

Among 2,000 persons in Victoria 1,760 are on the average under fifty-five years⁽⁶⁾ and nine of these die every year; 240 are fifty-five years and over and eleven die every year.

Of every twenty persons who died in public hospitals in Melbourne in 1926 thirteen were under fifty-five and seven were fifty-five years and over.⁽¹³⁾

From the above, it is deduced that the young people go into hospital and the old people stay at home to die. Twenty deaths in hospitals are derived not from 2,000 people, but 2,700.

Of deaths in industrial suburbs 35.5% occur in public hospitals,⁽⁶⁾ while additional deaths occur in public sanatoria and asylums.

$$35.5\% \text{ of deaths} = \frac{27}{20} \times 35.5 = 48\% \text{ of population.}$$

3. The American hospital census seems to indicate that, excluding those for persons with lunacy and tuberculosis, 3.4 beds per thousand is the average number occupied, regardless of the manner in which the beds are supported.⁽¹⁰⁾

4. It is significant that from Richmond in Victoria (42,000 people), 2,100 patients were admitted to public hospitals, while 250 patients were admitted to "Epworth Bethesda" which is a well equipped, efficient intermediate hospital of one hundred and fifty beds in the centre of and the only private hospital in Richmond.

At present 1,400 beds or 2.3 beds per thousand provide 50% of the hospital nursing from the industrial 600,000. One thousand more public hospital beds will provide four beds per thousand, almost sufficient for the total acute requirements of the industrial population. Patients with chronic diseases as a rule are not admitted. Definite undertakings now are being entered into for 470 of these additional beds in association with existing charities.

Appendix B.

The service rendered in public hospital out-patient departments for the three years 1925 to 1928 is shown in the accompanying table.⁽¹⁷⁾

Year.	Number of Patients.	Number of Attendances.	Approximate Population of Melbourne. ¹
July 1, 1925, to June 30, 1926	121,670	771,613	930,000
July 1, 1926, to June 30, 1927	133,897	841,177	960,000
July 1, 1927, to June 30, 1928	137,275	911,684	990,000

¹ The official figures for the population in December, 1926, were 944,000 and in December, 1927, 975,000.

The figures in this table, according to national insurance in Great Britain and lodge experience, are equivalent to extending service in 1926 to 21.5% or 200,000 people, in 1927 to 23% or 220,000 people, in 1928 to 24% or 240,000 people. Of these four-fifths are from industrial suburbs, if admissions as in-patients are an index of admissions as out-patients. That is to say, in 1925-1926, 26%, in 1926-1927, 28%, in 1927-1928, 30% of the industrial population submitted themselves for treatment to the hospital out-patient departments.

Appendix C.

In the accompanying table a comparison is made of the number of lodge members and the population in 1901 and 1926.

Year.	Population.		Lodge Members.	
	Rural.	City.	Rural.	City.
1901	708,320	501,580	47,131	55,842
1926	767,400	944,400	48,779	97,566

There was a falling off in the number of lodge members during the lodge dispute with the Victorian Branch of the British Medical Association in 1918, 1919 and 1920 and since that time lodge members in Melbourne have not increased in proportion more rapidly than the Melbourne population. This is allegedly due to prospective national insurance.

In Melbourne in the industrial area there are 183,000 persons receiving lodge benefits or 30% of a total population of 600,000. In the residential area 57,000 are receiving lodge benefits or 17% of the population of 330,000.

These figures of lodge membership have been supplied by the Victorian Government Statist and the Actuary to Friendly Societies. The number of dependants has been calculated from information derived from the census, 1921, Commonwealth Statist and Lodge Headquarters. Each lodge member represents approximately 2.532 persons.

Appendix D.

Time Payment System.

The effective rate of interest where the time payment system is financed by the trader, is approximately 30% for small amounts. Where it is financed by the cash order agency, the effective rate is 200% to 450%.⁽¹⁸⁾

Two years ago there were thirty-eight such agencies in Melbourne and suburbs. One of the smallest had one hundred and twenty retailers on its operating list. These agencies interfere with ability of the people to pay for groceries *et cetera*.

Of the Victorian police 7% were exclusively employed in issuing distress warrants and 2,500 of these were issued in Collingwood, 10,000 at Russell Street and 8,000 at the Bourke Street Police Station.

These are examples of what is happening. Most of these warrants were on behalf of cash order agencies. Since that time these agencies have widely extended their activities.

At a deputation recently to the Ministry the licensed pawnbrokers expressed their indignation at the methods of the cash order agencies.

Appendix E.

Suburban Out-patient Departments.

The following extract is taken from Rubinow's book at page 254.

In New York City in 1914 there were 130 such institutions treating literally millions of patients. These dispensaries are often criticised and by some considered an evil.

1. Objections to the way patients are treated.
2. More serious is the economic aspect.

Dispensaries after all are charitable institutions. They are intended for the poor. Persons attended are technically on a par with paupers. There is a factor there which deters some from applying to dispensaries for aid. They are characterised by the medical profession as an evil because of the abuse to which they are subject, because they offer treatment to a class to whom a medical fee would not be impossible. The average practitioner among the poorer classes, *therefore*, fears the dispensary as his greatest competitor for paying patients.

The war between private practitioners and dispensaries which has been going on for 20 years at least has its humorous aspects.

The persons on both sides of the trenches are largely the same. The private practitioner who kicks and rails against the dispensary which takes away his patients, is frequently the same practitioner who at certain times of the day does the self same dispensary work. The reason is not difficult to understand.

- (1) Search for experience by the recent graduate.
- (2) The more mature trying to keep in touch.
- (3) Creation of prestige and perhaps an in-patient appointment.
- (4) Struggling junior trying to get into touch with the patient—mild advertising.

The work is done for nothing as in hospitals, on the principle, "Virtue has its own reward." The enormous free work of struggling physicians in charity dispensaries is certainly an anomaly not found in any other professional activity.

The fact often mentioned as justification that physicians obtain in the dispensary valuable experience is no justification. Professional work paid for or not provides experience. Rules of apprenticeship cannot apply to men or women who must be about 25 years or over when beginning private practice.

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- (4) Municipal Directory of Victoria, 1927.
- (5) Official information.
- (6) Victorian Year Book, 1926-1927, pages 156, 158, 159, 169.
- (7) "Letters Patent of Royal Commission on Basic Wage," 1919-1921. "Parliamentary Papers, General Session," 1920-1921, Volume IV.
- (8) "Forty-eighth Annual Report on Friendly Societies of Victoria," 1926.
- (9) *THE MEDICAL JOURNAL OF AUSTRALIA*, December 3, 1927, page 773.
- (10) *Hospital and Charities Act*, page 3260, Section 73.
- (11) *THE MEDICAL JOURNAL OF AUSTRALIA*, April 21, 1928, page 494.
- (12) Federal Health Conference, *The Argus*, July 26, 1926, *The Herald*, September, 1926.
- (13) *The Argus*, September 26 and 30, 1926.
- (14) I. M. Rubinow: "Standards of Health Insurance."
- (15) Official information.
- (16) *The Journal of the American Medical Association*, April, 1926, page 1074.
- (17) Figures supplied by the Charities Board.
- (18) "Report of the Commonwealth Interstate Commission," Number 11, 1919.

Reports of Cases.

URINARY SYMPTOMS IN APPENDICITIS IN A CHILD.

By J. L. MEAGHER, M.B., B.S. (Melbourne),
Melbourne.

I HOPE the following will shed light upon a pitfall in diagnosis.

As unofficial clinical assistant to Dr. W. W. McLaren in the Out-patient Department at the Children's Hospital, Melbourne, I saw recently a boy ten years of age. He had been attending the hospital complaining of lower abdominal pains and pain near the tip of the penis before, during and after micturition.

These penile pains later, he told us, came on just before the act and immediately after it. They were severe. He had not any frequency and did not pass blood. This was in the last week in February, 1928. Two years before he had been circumcised and had had the pain for six months previously.

Examination at that time revealed nothing abnormal in the abdomen. He was not very sick and was given potassium citrate. It was noticed that he had a small penile meatus. He was referred to a surgeon for dilatation of the meatus. This was done on March 8. A number 7 sound was passed. The urine contained no abnormal constituents.

My notes concerning an attendance by him on March 12, 1928, were that paravertebral dullness was present on the right side of the chest. Tenderness was present in the left iliac fossa and the right iliac fossa. The weight was twenty-seven kilograms (four stone four pounds). I prescribed potassium citrate and hyoscyamus.

The pain caused him to bend in two and made him vomit. Vomiting occurred independently of the pain. Often he would bring up a little food immediately after a meal. His previous history revealed that he had suffered from scarlet fever, measles and whooping cough infections.

I sent him for an X ray examination of the chest. The report was that there was nothing to indicate enlargement of the bronchial glands. A week later he complained of headache and pain at the tip of the meatus after micturition. He was sent to the dental surgeon for remedy of an overcrowding of the teeth. At this time I regarded him as suffering from a chronic indigestion possibly of tuberculous origin. A von Pirquet skin test was done with no reaction. He was constipated. On April 2 he was tender in the abdomen in the mid-line. The abdomen was on guard all over. He had not been vomiting recently and his symptoms were not urgent. Two days later he was knocked off his bicycle by a motor car and sustained injuries for which he was treated at the hospital. I did not see him for three months. In the interval he had gained only 0.9 kilogram (two pounds) in weight. Now on July 2 he complained of severe pain before and after micturition. The kidneys were palpable and tender. His bladder, he said, felt painful on his rising in the morning. On July 7 he came to the out-patient department. He said he had suffered severe pain the day before, on the right side of the abdomen, and had vomited brown material. He had diarrhoea three days before. My notes of the examination made at the time, as regards the abdomen, read as follows: "Tenderness is present in the right iliac fossa. *Per rectum* a tender fluctuant mass is felt in the right iliac fossa. Recommended for admission to a surgical ward for observation." He was admitted that day to a surgical ward. His in-patient history stated that the pain had begun thirty-one hours before. It had radiated across the lower part of the abdomen and two hours after the onset he had vomited. Most of the pain had disappeared eight hours before admission. He was not feverish.

The appendix was removed on July 10 by Mr. R. F. Downes. It was in a state of acute catarrhal inflammation and was related to the right ureter.

The points of interest in this case, it seems to me, are: (i) The unusual site of the pain; (ii) the occurrence of vomiting independently of pain and the prominence of this symptom.

I saw the boy in the out-patient department on November 11. He was well, had gained considerably in weight and said he had had the pain a few times severely in the week after operation, but not since.

Reviews.

EXAMINATION OF THE URINE.

"URINARY ANALYSIS," by Dr. Louis Heitzmann, now in its fifth and revised edition, should prove a valuable *aide mecum* for students and for general practitioners who

undertake minor pathological investigations for their patients.¹ For the skilled laboratory worker, however, we can find nothing new. For the average well equipped laboratory it is elementary.

The text has been divided into three sections and this division is both practical and facilitates ready reference. The sections deal with (i) chemical examination, (ii) microscopical examination and (iii) microscopical urinary diagnosis.

The introductory chapter on the physiology of the kidney is particularly good and as dogmatic as our present state of knowledge allows, but unfortunately there is no addition to that knowledge.

Section I, on chemical examination of the urine, is very full and detailed. All the well known tests are included, but again we fail to find any addition to the tests now hallowed by time. This section is a compilation of recognized and accepted tests for normal and abnormal constituents of the urine. The section on microscopical examination is good.

There are over 130 illustrations, but unfortunately most of these are too diagrammatic and are apt to mislead. Photomicrographs would give a much truer and really more accurate conception of what would be seen under actual working conditions. Again some of the conclusions reached from microscopical appearances are rather far-reaching and the average pathologist would not be so dogmatic in his diagnoses.

The final chapter on estimation of renal efficiency contains material not included in former editions, but is sadly marred by the omission of actual laboratory technical details of the functional tests mentioned. This omission renders this chapter an interesting discourse, but one of small practical value to the laboratory worker. Technique is everything.

There is a comprehensive index which allows ready reference.

PSYCHOLOGICAL STUDIES.

In two essays on analytical psychology, Dr. C. G. Jung has rewritten two of the papers on that subject edited by Constant Long. The present work under review is admirably translated by H. G. and C. F. Baynes.²

The author admits that in this presentation of his subject he has made no ordinary demands upon the understanding of his readers. As a matter of fact the book is "hard reading," but as a serious contribution towards the unravelling of dynamic psychology and its application to methods of treatment, the labour is well spent.

After dealing with the viewpoints of Freud and Adler, he shows that their theories are irreconcilable and have only in common the unweaving of everything that is worthless in man. They are concerned not with the values of a man, but with his negative qualities which they render disturbingly conspicuous. The positive qualities Jung finds in the extroversion and introversion tendencies. By their consideration and if the views of Freud and Adler are regarded as technical methods of treatment, the contradiction disappears. He avers that in the neurosis of a youthful introvert the theory of Adler seldom fails and in the treatment of the young extravert it is always advisable, indispensable indeed, to take full account of the sexual theory.

Two levels in the unconscious are recognized. The more superficial, known as the subconscious or personal unconscious, contains forgotten memories, suppressed painful ideas, apperceptions, sometimes described as below threshold (subliminal), that is sensory perceptions not strong enough to reach consciousness, and finally contents that

are not yet ripe for consciousness. The lower collective unconsciousness contains the deepest, the most ancient and the most universal thoughts of humanity. Whilst the materialist, in spite of the author's examples of primitive thinking, may find difficulty in seeing eye to eye in these matters, he will at least have food for thought.

The second essay deals with the relation between the ego and the unconscious. Part I is concerned with the effects of the unconscious upon consciousness. Part II deals with individuation or self-realization.

An interesting chapter unfolds a conception of *anima* and *animus*. Man possesses feminine attributes based on the early influences of his mother and experiences of ancestors. These constitute the *anima*, whereas the woman has masculine traits, the *animus*. Repression leads to a heaping up of these tendencies in the unconscious. The *persona* called after the mask worn by actors, is the ideal picture of the man as he should be—his own conception of himself. Conflict between the conscious *persona* and the unconscious *anima* or *animus* is the basis of the frequent, double-sided nature of man's personality and the vagaries of his sex life.

The book closes with an account of the *mana* personality—a magic personality, a dominant of the collective unconscious which has developed through the years. Those possessing it have superlative powers. Jung sees in Napoleon a personality of this type.

PROGRESS IN OPHTHALMOLOGY.

DR. W. S. DUKE-ELDER whose book, "Recent Advances in Ophthalmology," was so well received, has just published in Churchill's Empire Series "The Practice of Refraction."¹

He presents the theory of refraction in a clear manner and brings to the aid of the practitioner a large amount of information which could be gathered only by long experience and by recourse to the writings of many authorities. Although, as the author puts it, the art cannot be learned by reading, but only by assiduous practice, this book cannot fail to prove a valuable aid to the student and practitioner of ophthalmology.

In an interesting chapter on eye strain Dr. Duke-Elder remarks that the headache of eye strain conforming to no type and simulating most, is difficult to diagnose with certainty and only by a routine examination. He lays stress on the fact that the symptoms of eye strain are caused often in a patient who is suffering from some lowering of the general health, by a small refraction error which in good health had caused no symptoms.

In regard to "true migraine" he is of the opinion that there is little adequate evidence that errors of refraction can be considered the cause and less evidence that their correction has ever resulted in a cure. Such errors may, of course, aggravate the condition and prolong a migrainous state. Needless to say, in all such cases the eyes should be carefully examined and errors in refraction corrected if necessary.

In his article on myopia the author states that it is impossible clinically and pathologically to draw a distinct line of difference between simple and progressive or malignant myopia.

With this all will not agree; there is much to be said for the view of Schnabel that the malignant forms of myopia, namely those with posterior staphyloma resulting from congenital malformation, are quite a distinct type. They have been found often in the illiterate who have never been subjected to any eye strain.

There is a chapter dealing with the making and fitting of spectacles which contains much useful information.

The book is what it claims to be, practical, and withal it is written in an easy, pleasant style which commends it to the reader.

¹ "Urinary Analysis and Diagnosis by Microscopical and Chemical Examination," by Louis Heitzmann, M.D.; Fifth Revised Edition; 1928. London: Baillière, Tindall and Cox. Royal 8vo., pp. 387, with illustrations. Price: 22s. 6d. net.

² "Two Essays on Analytical Psychology," by C. G. Jung, M.D., LL.D.; authorized translation by H. G. and C. F. Baynes; 1928. London: Baillière, Tindall and Cox. Demy 8vo., pp. 298. Price: 10s. 6d. net.

¹ "The Practice of Refraction," by W. Stewart Duke-Elder, M.A., D.Sc. (St. And.), Ph.D. (Lond.), M.D., Ch.B., F.R.C.S.; 1928. London: J. and A. Churchill. Post 8vo., pp. 423, with illustrations. Price: 12s. 6d. net.

The Medical Journal of Australia

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A Retrospect.

Gynæcology.

MUCH work has been published during the year 1928 on the radiation treatment of malignant disease of the female generative organs. In spite of the considerable accumulation of data and of the recording of experience extending over many years, there is still a conflict of opinion between gynæcologists as to the proper methods of procedure. Werner has summed up the results of his observations by stating that if the disease is seen at a sufficiently early stage, operation should be undertaken and that post-operative radiation improves the chances of ultimate recovery. He holds that X rays yield rather better results than radium for this purpose. Schleyer in tracing the end results of ovarian tumours with all forms of treatment finds that the immediate mortality is 12.37%, that 21% of the patients enjoy a relative freedom from recurrence at the end of twelve months and that 9.5% have an absolute freedom from recurrence at the end of five years. Against this Amreich claims that permanent freedom from recurrence occurs in 14.1% of patients treated by radium. Schleyer has come to the conclusion that the best treatment for ovarian neoplasms is early diagnosis, removal of as much as is possible, even in inoperable tumours, and subsequent radiotherapy. Deep X ray therapy appears to be losing in favour, while radium seems to be becoming more fashionable. The action of the Commonwealth Government in acquiring a large quantity of radium has resulted in full use being made of the stock. The Cancer Research Committee of the University of Sydney is confusing research with empirical treatment and is further alienating the sympathy of the medical

profession by an arbitrary decision of the members of the Committee in regard to the form of treatment to be applied to patients for whom radium is prescribed by those in attendance. In the course of time statistical evidence will probably be collected of the results of surgical removal, primary irradiation by X rays and primary application of radium in carcinoma of the cervix, of the *fundus uteri* and of the ovaries. Before such statistics will be of value, it will be essential for clinicians to collect the data in regard to patients whose disease is in a comparable stage in each series. In the meantime the physicists will determine the action of penetrating rays of definite wave lengths and will, it is hoped, devise means to deliver only those pencils of rays that have a destructive effect on living tissue cells. Some unexpected results have already been achieved in regard to the astoundingly small amount of energy needed to effect a stimulating and a destructive action on embryonic cells. It is obvious that when X rays and radium rays have been brought under control in this manner, this therapeutic measure will be found to be valuable not only in the treatment of malignant growths, but also in that of innocent tumours.

Gardiner Hill and Forest Smith have studied the association of thyroid disease and disturbances of menstruation. They have found that in about 50% of all patients with colloid goitre the menstruation is regular and otherwise normal. On the other hand there is a tendency for amenorrhœa to be associated with hyperthyroidism and menorrhagia with hypothyroidism. In exophthalmic goitre with a high basal metabolic rate amenorrhœa is usually noted. When a woman is affected with myxœdema before the menopause, she usually suffers from menorrhagia. Occasionally amenorrhœa is established. While there is no doubt concerning the interdependence of the physiological activities of the sexual organs and of the glands of internal secretion, the therapeutic application of organ extracts has proved very disappointing. The market has been flooded with preparations of this kind, but few clinicians find ovarian substance, preparations of *corpus luteum* or other glandular extracts with the exception of thyroid of real clinical use.

Jarcho has continued his observations and experiments with utero-salpingography. He claims that if iodized oils are employed, it is quite safe to introduce the suspensions into the uterus and tubes. This procedure supplements the injection of air for diagnostic purposes. He finds it most useful for the recognition of occlusion of the Fallopian tubes. He is even inclined to the opinion that as the iodine from the oil is slowly liberated, the method has a distinct therapeutic effect.

At the first annual meeting of the College of Surgeons of Australasia the subject of the plastic restoration of the pelvic floor was well described, especially by Maguire. He has applied his anatomical researches to this problem and has displayed skill and ingenuity in the adaptation of morphology and physiology to practical gynaecology.

The visit of Victor Bonney to Australia and his stimulating and instructive addresses have had a wholesome effect on those who are practising gynaecology in Australia. He attended the first annual meeting of the College of Surgeons of Australasia at Canberra as the official delegate of the Royal College of Surgeons of England.

Neurology and Psychiatry.

An event of the year in the realm of neurology was the fruitful discussion on cerebral tumours at the annual French Congress of Neurology and Psychiatry held in Paris. The subject was thrashed out with the greatest thoroughness. The various speakers dealt with the several aspects of the subject; some considered diagnosis, others radiographic diagnosis, others again pathology, others the ophthalmic signs; some turned their attention to treatment including surgery and radiotherapy. The record is a remarkable one of advance in knowledge of cerebral growths. Reference should be made to the latest exploit of Walter Dandy. This was the performance of complete suprachiasmatic ablation of the right hemisphere of no less than five persons with cerebral tumours. Appreciable benefit followed the operation in four, while the fifth is said to be cured, save for the preexisting hemiplegia. Some comment has already been made on this work under the caption of surgery. It must be left to the imagination to decide how such

experiments may modify the ideas of physiologists and neurologists concerning the functions of the human brain.

Much continues to be written on *encephalitis lethargica*, chiefly in relation to the sequelæ, such as respiratory disorders, Parkinsonism, spasmodic eye movements, decerebration effects and the encephalitic child. There is a tendency to regard these conditions rather as late manifestations of the encephalitis than as sequelæ. The prognosis of the disease is gloomy, although some patients appear to improve after the diagnosis of Parkinsonian syndrome has been established. Collins and Dawson have dealt with the disease and its manifestations from the physical and mental aspects respectively and have illustrated the difficulties that may be experienced in arriving at a diagnosis. Bentley has emphasized the same points and has given evidence of the bad outlook when conduct is impaired as a result of the encephalitic attack.

Some interesting work has been carried out on sensory disorders in organic disease of the brain, especially by Gordon Holmes. Mention should also be made of some communications presented to the Royal Society of Medicine on lesions of the cerebellum.

Kinnier Wilson and James Collier have published the results of their studies on what they please to call the epilepsies. It is suggested that the symptoms of an epileptic attack are release phenomena, a conception which falls into line with the researches of Pavlov on conditioned reflexes. Pavlov demonstrated that even sleep is but a matter of internal inhibition or release.

Opinion is being expressed that narcolepsy and epilepsy are inseparable conditions. This is contrary to the original teaching of Gelineau that narcolepsy is a distinct entity.

The problem of disturbance of sensation has long attracted physiologists and clinicians. Some important contributions on this subject have appeared in this journal. A. E. Mills has endeavoured to trace the production of pain to oxygen want of the tissues. He has based his considered argument on observations on many patients. V. J. Kinsella attributes visceral pain to compres-

sion of nerves and supports his contentions by some logical reasoning. H. H. Woollard has recorded observations from comparative anatomy which seem to support the teaching of H. Head on protopathic and epicritic sensibility.

Tiegs and Coates have questioned the doctrine enunciated by Royle and Hunter of the sympathetic innervation of skeletal muscle. They state that they have been unable to obtain confirmatory results from a repetition of the experiments on goats and birds. They suggest that one function of the sympathetic is to increase the ability of muscle to withstand fatigue. Their statement that the removal of the left sympathetic trunk in the goat does not affect the posture of the limb, the knee jerk or the tension of the *tendo Achillis* has been challenged by Campbell. Royle has demonstrated the influence on postural tonus to so many persons in Australia and in New Zealand that the fact must be accepted. If the same results cannot be obtained by other experimenters, it is obvious that errors of technique have occurred.

The advances registered in psychiatry during the year are neither as numerous nor as striking as those in neurology. Favourable reports on the treatment of general paralysis of the insane continue to be published. Bering is sufficiently optimistic to prophesy that no victim of syphilis treated prophylactically with malaria will be attacked by either general paralysis or cerebro-spinal syphilis. A measured judgement of the position of the malaria treatment of general paralysis of the insane was published a year ago by Dawson in this journal. The treatment is not without risk, but the dangers can be avoided by a consideration of the contraindications.

William Hunter has suggested the addition of a toxic psychosis to the list of mental diseases usually recognized. Weygandt maintains that many psychoses including *dementia præcox* are of metabolic origin. It is easy to postulate autotoxæmia as an ætiological factor in psychosis, but doctrines of this kind cannot command general acceptance until the toxin or at all events its source can be demonstrated. Those who judge the matter critically, refuse to accept Hunter's and Weygandt's views. They point out that by the use of enemata

and colonic lavage recoverable disturbances that cannot be regarded as psychoses, have been recognized and differentiated. Some of these conditions undoubtedly simulate *dementia præcox*.

The ætiology of alcoholism is another subject that has been considered by psychiatrists in congress. The number of contributory factors assigned and the wide range of opinion expressed thereon by different authorities have detracted from the profit of the discussions.

In regard to the out-patient clinics attached to general hospitals for patients in the incipient stages of mental disease it has again been emphasized that if full advantage is to be gained from this admirable movement, wards with a sufficient number of beds are indispensable.

Therapeutics.

The augmentation of therapeutic remedies each year is becoming appalling. During the past year new pharmaceutical firms as well as new proprietary preparations have been introduced to the medical profession. It is questionable whether the growth of this trade is to be regarded as an advance. Until recently preparations reputed to contain hormones were being thrown at the medical profession at an alarming rate. The stream is now lessening, but a flood of remedies said to contain vitamins is arriving instead. Great care is being exercised by this journal in distinguishing between proprietary preparations with definite therapeutic actions and those concerning which the proprietors make unsubstantiated and exaggerated claims. We would remind our readers that no advertisement of a proprietary remedy or food preparation is accepted until full inquiry has been made, including inspections of the process of preparation or manufacture and analyses of ingredients and of the finished product. In many instances reports on the clinical employment of the preparations are obtained before a decision is reached. Members of the medical profession can be satisfied that the claims made by the proprietors on behalf of any of the preparations advertised in this journal are substantially true. In some instances objection has been taken to the exaggerated claims made on behalf of otherwise useful remedies and the firms

have resented the dictation of this journal that the claims must be modified.

In regard to organic preparations the first place must be given to liver extracts. Liver substance or extract is being prescribed for pernicious anæmia with benefit and useful results are claimed for the same treatment in other forms of anæmia. Various hypotheses have been advanced to explain the action of liver. There are some good extracts offered for sale.

Dale has shown that the depressor substance in liver extract is histamine or a substance indistinguishable from histamine, while choline may also play a part. Since these substances produce a definite fall in blood pressure, it is held to be inadvisable to employ them in hyperpiesis. Douthwaite and others advocate stable preparations of veratrum for this condition.

Very little that is new has been put forward in regard to antiserum treatment. Reference has already been made to the prophylactic injection of toxin-antitoxin mixture in susceptible children in the presence of diphtheria infection. Park and Cooper inject one thousand units of antipneumococcic serum intravenously and intramuscularly every eight to twelve hours. They find that a polyvalent serum against Types I and II is useful until the infecting organism has been typed.

In the treatment of rickets irradiated "Ergosterol" has been recommended. The greatest care should be exercised in the use of substances of this kind, particularly because correct feeding, sufficient sunlight and the administration of calcium and cod liver oil yield excellent results.

Large scale experiments have been carried out in regard to the treatment of amœbic dysentery. The conclusion has been reached that emetin and certain arsenic preparations yield the best results.

In connexion with the treatment of gout "Atophan" and allied preparations have not received the support they enjoyed at first. They have been found to exert toxic effects on the liver and they have caused many deaths. These drugs should not be sold without a prescription from a medical practitioner on this account.

Ephedrine has been largely employed for asthma and hay fever and many clinicians report favourably on its action. "Novasurol," a mercury preparation, is stated to have a definite effect in reducing ascites and œdema by diuresis in cardiac dropsy. It yields satisfactory results if the kidneys are normal. As a rule ammonium or calcium chloride is given with it. Some French observers have recorded useful effects of acetylcholine in Raynaud's disease, senile and diabetic endarteritis, claudication and trophic ulcers. Since a stable preparation is unobtainable, this substance has to be given in ampoules together with anhydrous glucose. It is said to lower blood pressure by dilating arteries and arterioles; its action on the heart is analogous to a stimulation of the pneumogastric.

"Monsol," a new antiseptic, a derivative of the distillation of coal tar at low temperatures, is a hitherto unknown chemical compound. It possesses a high Rideal-Walker coefficient and is relatively non-toxic. A report on this preparation will be published in this journal in a short time.

Christie and Gulland have found that transfusion of human blood and the local application of fresh human blood are the only useful measures for the treatment of hæmophilia.

Ophthalmology.

The glaucoma problem still holds a prominent place in the literature of ophthalmology. Attention has lately been focused upon the physiology of the capillaries and on the dialysis of the ocular fluids. It is hoped that the study of these phenomena will solve the problem. It is held by modern workers that the trouble lies in the increased permeability of the capillary walls and in the dilatation of the capillaries themselves. It is suggested that this is due to an excess of histamine or of other capillary dilating substances over the adrenal secretion or capillary constricting group. Some observers have postulated a biological poison liberated as a result of persistent constipation, hepatic insufficiency or renal inadequacy. While the existence of these toxic substances is hypothetical, some evidence has been adduced in support of the contention. Those who have elaborated the doctrine, have further surmised that as in

acute glomerular nephritis the kidney becomes engorged and functionless in its inelastic capsule, so capillary dilatation with increased transudation and increased colloid in the dialysate causes increased tension in the rigid sclerotic and loss of sight. Ophthalmologists, basing their practice on this pathological hypothesis, have directed their attention more to the general treatment of the patient and less to his local ocular condition. Intravenous injection of supersaturated saline solution produces a hypotonic state of the blood. It has been employed to reduce acute intraocular tension. It is too early to determine the actual value of this treatment. Similarly the use of adrenalin and its derivatives in the treatment of acute and chronic glaucoma is still on its trial.

Ellis has carried out some careful observations with Davis's method of treating cataract by the injection of lens antigen. Apart from the general tonic effect no benefit followed this treatment. He reports particularly that there was no absorption of the cataractous lens.

Van Heuven recommends an operation known as *colmatage* for detachment of the retina. It consists in making a triple row of punctures with the galvano-cautery in the sclerotic, after having first loosened the conjunctiva around the cornea. He reports favourable results, especially in detachment of the retina of traumatic origin.

The use of diphtheria antitoxin in large doses has been advocated for sympathetic ophthalmia by Heckel who claims to have obtained excellent results in four patients.

Webster Fox has employed optical iridectomy for congenital cataract and claims that it should be used more frequently on account of the better results obtained than those that follow repeated needlings. Moreover, the latter treatment has the added disadvantage that the patient so often has to wear high convex lenses. There seems to be a tendency toward more radical operation for congenital cataract. Several well known surgeons advocate incision, iridectomy and evacuation of the lens.

Motais's operation for ptosis has been the subject of much discussion. Kirby proposes to perform it through a skin incision. He has described the technique of his modification of the Motais operation

and states that he has obtained good results in twelve patients. Shoemaker denies the physiological action of the superior rectus in raising the lid. He considers that this muscle acts merely as an anchor. He claims in consequence that it is unnecessary to sever any part of the superior rectus from the globe. It is sufficient to expose the muscle and to suture to the tarsus.

Duke-Elder has published the results of his investigations into the use of ultra-violet light in ophthalmic diseases. He states that if properly used, a maximum tonic effect is attained and as a result there is an increase in the bactericidal power of the blood. He emphasizes the necessity of protecting the lens. He uses the methods for various forms of corneal ulcer, diseases of the conjunctiva and lids and at times episcleritis. He suggests that ultra-violet light treatment should be limited to these conditions at present. He has obtained some dramatic results.

Some excellent work has been carried out in Australia in the control of trachoma. The development of the work in Queensland under the direction of the Principal Medical Officer, Dr. St. Vincent Welch, is bearing evident results. C. Madden, in New South Wales, has paid attention to this common disease and has published a valuable article on the classification, manifestations and treatment of this disease.

Douglas has called attention to the varied ophthalmic conditions that accompany and follow encephalitis. Endophthalmitis, ophthalmoplegia and optic atrophy are encountered in typical and atypical forms and vision is at times endangered and lost.

We note that relatively few communications in ophthalmic subjects have been communicated to this journal or brought to the notice of the members of the several Branches of the British Medical Association in Australia. At one or two clinical meetings some eye diseases were demonstrated, but on no occasion did any member bring to a meeting of the Branches an ophthalmic matter for discussion. It is also noted that no ophthalmic section of a Branch has yet been formed. This isolation is good neither for the medical profession as a whole nor for ophthalmologists.

Abstracts from Current Medical Literature.

GYNÆCOLOGY.

The Diagnosis of Pregnancy.

A. DIENST (*Monatsschrift für Geburtshilfe und Gynäkologie*, July, 1928) states that pregnancy can be diagnosed in the early stages by chemical tests of the urine. His method was first applied to the blood and depends on a colour reaction with ninhydrin. He has now found that equally good results can be obtained from an examination of the urine. The reaction depends on the presence of metathrombin in either blood or urine. Test tubes 18 centimetres in length with a bore of 0.75 centimetre are used; 0.1, 0.2 and 0.3 cubic centimetre of a 1% aqueous solution of ninhydrin are added to ten cubic centimetres of urine and the mixture is heated for twenty-five seconds. In pregnancy 0.1 cubic centimetre of ninhydrin produces a lilac colour which deepens when 0.2 cubic centimetre is added. In the urine of normal non-pregnant women no colour changes are observed until 0.3 cubic centimetre is added. Even then the colour is pale lilac and totally distinct from the deep violet blue reaction of pregnant women with this concentration. The urine should be collected from a morning specimen in order to eliminate the effect of leucocytosis after a meal. The author also states that immediately before or after the menstrual period the urine may give a reaction. He claims success in 92% of the pregnant women.

Vaccine Treatment of Gonorrhoea in the Female.

F. WOLFF (*Deutsche Medizinische Wochenschrift*, September 28, 1928) describes his results with the injection of living gonococci in the treatment of chronic gonorrhoea in the female. This injection should not be attempted in the acute stage, for no effect is noted when the infection is superficial. Acute symptoms are treated in the usual manner and vaccines reserved for patients with chronic endocervicitis, metritis and salpingitis. It is particularly useful when a positive smear is obtained after several failures to find the organism. Patients are considered to be cured if in addition to the absence of clinical signs eight to ten smears contain no gonococci. The vaccine is made from a fresh culture of gonococci mixed with one to two cubic centimetres of distilled water and the whole is injected subcutaneously with a fine needle into the arm. Deep injections are apt to cause abscess formation. There is an energetic local reaction with considerable infiltration of the tissues. A second injection is given after ten days or not before all infiltration following the first dose has disappeared. The general reaction is not pronounced and does not bear any

relationship to the curative action of the vaccine. One or two injections are sufficient to cure the majority of patients. If gonococci are present one month after the first dose, a further interval of four weeks is ordered followed by another injection. The exact number of gonococci injected is immaterial. The author has used amounts from one to twelve million and considers that the minimum should be two to three million per cubic centimetre.

Ocular Lesions in Obstetrical and Gynaecological Conditions.

E. VOGT (*Monatsschrift für Geburtshilfe und Gynäkologie*, September, 1928) discusses the various ocular diseases associated with obstetric and gynaecological complaints. Albuminuric retinitis occurs usually in *multiparæ* after the sixth or seventh month. While spontaneous recovery may occur during the puerperium, recurrences are generally noted in subsequent pregnancies. When it occurs in the first half of pregnancy, immediate induction of abortion is indicated. In the second half of pregnancy the author is in favour of allowing the pregnancy to continue unless the condition becomes worse. If induction does not improve the retinitis, all future pregnancies must be prevented. He prefers to crush a portion of the tube with a clamp, then to ligature and bury it. If sterilization be desired at the same time as emptying the uterus, he employs lumbar anaesthesia, performs an abdominal hysterotomy and deals with the tubes as already noted. The amaurosis seen with eclampsia is characterized by a normal retinal field and is due to a cerebral lesion. The prognosis is good. Optic neuritis requires immediate termination of the pregnancy, no matter at what stage, because of the risk of complete blindness. If a child be earnestly desired, the risk of waiting until viability may be taken, though further pregnancies must be prevented. Eye symptoms during labour are due to hæmorrhages caused by increased blood pressure. Absorption of the blood is rapid and the outlook good. The use of intravenous injections of various drugs for puerperal sepsis occasionally causes chorioido-retinitis or *retinitis pigmentosa*. Bilateral panophthalmia in severe cases of infection has a very bad prognosis, but when unilateral the outlook is not quite so unfavourable. Ocular lesions in the infant are generally seen after the use of forceps, especially in cases of contracted pelvis. The use of Kielland's forceps should obviate many of these lesions. The increase of blood pressure seen at the menopause may cause eye symptoms. Similarly, ocular disturbances may follow the severe anæmia caused by some uterine myomata. Metastases from malignant uterine or ovarian growths are very rare in the eye, although the reverse is sometimes seen with secondary melanotic sarcoma of the ovary. Paralysis of the sixth nerve is sometimes noted after lumbar anaesthesia. The author concludes

with a description of the ocular injuries caused to the fœtus by radiotherapy during pregnancy. The fœtus is usually microcephalic and the eye symptoms are coloboma, chorioido-retinitis and opacities in the lens.

Posture During the Third Stage of Labour.

S. HAMMERSCHLAG (*Monatsschrift für Geburtshilfe und Gynäkologie*, June, 1928) discusses the advantages claimed for placing the patient in the upright position during the third stage of labour. Those in favour of this procedure state that in the usual dorsal position the uterus falls to one side, abdominal pressure is minimal and the uterine contractions cannot act as well in conjunction with the retro-placental hæmatoma in expelling the placenta. The sitting-up position which is observed by all native races, brings the uterus into the mid-line and by increasing intraabdominal pressure assists in separating the placenta. The bladder is emptied and the patient placed over a receptacle with her thighs strongly flexed on the abdomen. From his experience in three hundred deliveries the author does not consider that this posture has any definite advantages over the dorsal one. While fewer patients suffered from rigor owing probably to the active muscular contractions involved in this position, it was also noted that more blood was lost. The method did not prevent manual removal or Credé's manœuvre in some instances, nor did he see any appreciable difference in morbidity during the puerperium between these patients and those treated by the usual method.

OBSTETRICS.

The Importance of the Utero-Sacral Ligaments.

H. WIESBADER (*Monatsschrift für Geburtshilfe und Gynäkologie*, June, 1928) discusses the relation of the utero-sacral ligaments to appendicitis, chronic constipation and inflammatory lesions of the uterine appendages. In the majority of a series of forty patients suffering from appendicitis thickening of the right ligament was present with tenseness and tenderness. Rectal examination in any doubtful case will help to establish the diagnosis. Chronic constipation is generally associated with inflammatory changes in the mucosa and the muscular and connective tissue layers. Below the reflection of the peritoneum from the rectum such lesions are in direct contact with the utero-sacral ligaments. Owing to the anatomical arrangement of the lower bowel, faeces are apt to remain here for considerable periods and such stasis is aided by the kinking effect of the shortened utero-sacral ligaments. The treatment consists not only in the use of enemata and purgatives, but also of hot vaginal douches, tampons and diathermy for the associated parametritis. In a series of eighty patients with inflam-

matory disease of the uterine appendages the degree of infection could be estimated by the condition of the ligaments. Therefore, palpation of these structures should be an integral part of the examination in all gynaecological conditions.

Symphysiotomy Versus Cæsarean Section.

E. HERNANDEZ (*Vida Nueva*, August 15, 1928) states that symphysiotomy produces a permanent enlargement of the pelvis in the treatment of contracted pelvis and enables spontaneous birth to take place in later confinements. In 1925 he reported a series of thirty-two patients on whom he practised open symphysiotomy. Nineteen of these had two to four subsequent confinements in which the children were born rapidly and spontaneously. In a series of one hundred subcutaneous symphysiotomy operations in patients with true conjugates of eight to ten centimetres, there have been fifteen spontaneous births and no patient has needed a repetition of the operation. Radiographic and other examinations at later dates show that the pubes remain separated, the interval being bridged by membranous tissue. It is the author's practice to make a complete severance of all the ligaments and other structures uniting the pubes and then to separate the bones as much as ten centimetres, though eight centimetres are usually sufficient. He describes and figures a case of a woman 1.7 metres in height with a deformed pelvis. She had a true conjugate of seven centimetres. After operation there was a separation of nine centimetres between the pubes. She gave birth to a child with biparietal diameter of 9.5. She had a normal puerperium and was up on the tenth day.

J. O. PEREZ (*Vida Nueva*, August 15, 1928) states that in presence of contracted pelvis or of disproportion between foetal head and pelvis two lines of treatment are open: Cæsarean section and the awaiting of developments with enlargement of the pelvic outlet by symphysiotomy. The Cuban custom is to perform Cæsarean section for those patients with a practical diameter of less than eight centimetres. All the rest requiring surgical intervention are treated by symphysiotomy. During the past five years only one patient has required Cæsarean section and fifty-four have been successfully treated by the other method. Thanks to this line of treatment useless operations, as he considers most Cæsarean section operations to be, are avoided. The risks of late Cæsarean section are also avoided. As an operation symphysiotomy is superior since (i) it is easier, simpler and can be performed in any surroundings; (ii) it preserves the integrity of the uterus; (iii) the risks of infection are no greater than in an ordinary birth (provided that the operation is performed outside of the genital canal); (iv) it improves rather than diminishes the prospect

of future normal births. His statistics show 0% maternal mortality, despite the fact that most of the patients were febrile when operated upon. Foetal mortality was 3.6%. For its success the procedure requires a correct appreciation of the necessary indications and strict adherence to the correct technique.

Indications for Interruption of Pregnancy.

H. GOLDSCHMIDT (*Deutsche Medizinische Wochenschrift*, August 24, 1928) reviews the indications and results following induction of abortion in a series of one hundred patients. In eighty-one instances the reason for induction was pulmonary tuberculosis. The after history of ten patients was obtained; three were dead and the remainder still under active treatment for the pulmonary lesions. Cardiac disease was responsible for eleven inductions—mitral incompetence in ten instances and aortic stenosis for one. Abortion was performed for three patients with contracted pelvis all of whom had already had two Cæsarean sections. The remaining indications were *status epilepticus*, multiple sclerosis, extreme kyphoscoliosis and rectal carcinoma associated with an artificial anus. Laminaria tents were employed for patients up to three months pregnant and rupture of the membranes for those whose pregnancy was more advanced. In some of the latter a rubber bag or catheters were also used. The author prefers to choose a time corresponding to the menstrual period, as this is more likely to result in rapid emptying of the uterus. There was no mortality in the series, although twenty-seven patients had a febrile puerperium.

Puerperal Sepsis.

H. SCHOTTMÜLLER (*Münchener Medizinische Wochenschrift*, September 21, 1928) deals with the severer types of puerperal infection. He states that venous spread of infection is six times as frequent as lymphatic. The acute forms are due to the *Staphylococcus aureus* or the hemolytic streptococcus, while the more chronic forms are caused by anaerobic streptococci, especially the *Streptococcus putrificus*. Acute sepsis commences on the second day generally with a rigor and the high temperature remains constant with slight remissions. Blood culture is generally positive and the thickened veins may be palpated and are frequently bilateral. Parametritis with abscess formation may develop. The disease runs a stormy course and usually ends fatally from cerebral complications and cardiac failure. The formation of metastases has little to do with the virulence of the infecting organism. Staphylococcal infections are very prone to give rise to metastatic abscesses, especially in the lungs. The mortality is high, but occasionally the infection runs a chronic course. The subacute or chronic form is more common and as a rule follows an abortion or some operative procedure as manual

removal of the placenta. Intermittent fever, rigors and the formation of parametritic exudates occur. Provided anaerobic methods of culture are used, blood cultures are positive, especially if taken just before a rigor. Pulmonary complications are common, especially septic broncho-pneumonia. Unfortunately in not more than 10% does recovery occur. He has never seen a pure case of gonorrhoeal sepsis in the puerperium. Puerperal infections are generally due to a streptococcal infection. Puerperal infection due to the *Bacillus coli*, unless as a mixed infection, is very rare. Death rarely occurs unless peritonitis is a complication. Gas infection is invariably due to criminal abortions. Jaundice is a frequent symptom. The blood serum is yellow or brownish in colour, due to the hæmatin present. Some patients present a considerable degree of cyanosis and dyspnoea. Consciousness is maintained until the end. Hæmoglobinuria is also characteristic. Acute endocarditis was observed in fifty-six instances. *Staphylococcus albus* or *aureus* was noted in twenty-nine, hemolytic streptococci in fourteen and anaerobic streptococci in the remainder. The result was always fatal. In the treatment of sepsis 10% glucose injections *per rectum* were useful, likewise blood transfusions of 500 to 800 cubic centimetres to combat anæmia. The serum of convalescent patients had been used in an attempt to raise immunity with little effect. Intravenous injections of strophanthin are necessary for acute heart failure and vasomotor disturbances, as evidenced by falling blood pressure and pulmonary oedema. They can be repeated daily if necessary. The author has had no success with chemical disinfectants nor with non-specific therapy. While treating patients conservatively as regards operations, he is in favour of using the curette when decidua or placental fragments are retained, provided that the cervix will admit the curette without further dilatation.

Puerperal Gangrene.

E. C. LORK (*Monatsschrift für Geburtshilfe und Gynäkologie*, September, 1928) describes two cases of puerperal gangrene. Both occurred in *multiparæ* following normal deliveries. The puerperium was febrile and gangrene developed after femoral thrombosis. In one patient the foot was amputated, while the other required amputation at the thigh. In neither was there any valvular cardiac lesion and the author considers that embolism can be excluded. The gangrene probably was produced by a primary arterial thrombosis arising in the placental site or from the parametrium. He notes with concern that both patients had been given "Gynergin" 0.001 gramme thrice daily for twelve days. This drug tends to cause arterial spasm and may have been the cause of the gangrene. In other cases in which it has not been used for so long a period, no ill effects have been noted.

Correspondence.

VINCA TREATMENT OF DIABETES.

SIR: IN THE MEDICAL JOURNAL OF AUSTRALIA of November 17, 1928, the report of an investigation on the therapeutic value of vinca is given. The authors state: "From the results of our observations we feel safe in stating that vinca produces no appreciable effect on the sugar content of the blood or urine in patients with diabetes. The beneficial effect felt by patients who are so confident of its results, is possibly due to the fact that the preparation has a weak digitalis-like action in common with other members of the *Apocynaceae*." Neglecting a case of renal glycosuria, these conclusions are based on the treatment of four cases of diabetes.

I would like to offer a friendly criticism on the following grounds:

(1) That the number of cases is not sufficient if it is desired "to give the drug an exhaustive trial."

(2) That the tests to which vinca was submitted, are rather too severe and may not be suitable for detecting any beneficial action that the plant may have.

A considerable number of plants have been described as having a beneficial effect in diabetes. In Australia prickly pear, eucalyptus and vinca leaves are familiar "cures." In America the leaves of the blueberry plant are reputed to be of value for diabetes. Allen, in collaboration with Wagner, prepared from blueberry leaves an extract which he termed "Myrtillin." He conducted an experiment on eighty-one diabetic patients in order to investigate the alleged therapeutic value of the plant. It would appear from his results and from those of other workers that certain plants have some value in the treatment of diabetes. We in the Baker Institute have been investigating the properties of a vinca extract, but at present we are not able to state any definite opinion as to the therapeutic value of this plant. The summary of Allen's investigation on "Myrtillin" is given below.

Myrtillin, a substance of unknown nature and composition, supposedly has a physiologic function in the normal carbohydrate metabolism of plants and perhaps of animals. It is not insulin or a substitute for insulin, but it exerts some positive and easily demonstrable influences in normal and depancreatized dogs. Animal experiments probably constitute the most rigorous objective test that can be applied to a diabetic remedy, and I believe that the striking and uniform benefits in diabetic dogs justify the trial of myrtillin in human beings. The advantages of myrtillin are that it can be taken by mouth, it is harmless under all conditions, and instead of causing hypoglycemia it tends rather to prevent it. These are qualities which will appeal strongly to patients and also to physicians; and another advantage for the general practitioner is that most of the cases treated by him belong in the milder group which, on the whole, react most favourably to myrtillin. There are, however, the disadvantages that myrtillin in general is feeble and uncertain as compared with insulin. It is useless against acidosis or infections, and it should not be given to glycosuric patients in the expectation of seeing the sugar clear up as it does under such a powerful agency as insulin. It is best to abolish glycosuria and hyperglycemia by the necessary preliminary measures, and then to give myrtillin as a means of gradually raising tolerance or reducing insulin. A considerable proportion of failures must be expected, especially in the severest cases and in young patients. The favourable results, when obtained, are more lasting and tend more in the direction of cure than those of any method heretofore known under any diabetic treatment. Exceptional patients have been relieved of insulin dosage ranging above 50 units daily, and have also discontinued weighing their diet. As a rule, only smaller degrees of benefit are to be expected, and exaggerated hopes should be discouraged. My belief, after two years of investigation, is that myrtillin plays

some accessory part in carbohydrate metabolism, and that if properly used it will prove valuable as an accessory factor in diabetic treatment.

The justice of my criticism concerning the number of cases investigated by Dr. Nye and Miss Fitzgerald can be seen when it is observed that out of Dr. Allen's series of eighty-one cases, he only used sixty cases for statistical purposes and these had been under exact and stationary control for at least a year. Out of these sixty cases he had twenty-four failures, but in the remaining thirty-six cases he thought that a markedly beneficial result could be demonstrated. Personally, I do not expect any startling results from vinca, but if it enables us to make additions to a diet or reduce "Insulin" it should prove a useful adjuvant to dietetic and "Insulin" treatment.

It is reasonable to infer that vinca may behave in a similar fashion to other plant extracts, such as "Myrtillin." The action of "Myrtillin" is slow in its onset. A week or even longer of continued administration is required before its full action becomes manifest.

Allen considered that it was inadvisable to give these plants to patients with unchecked glycosuria and to judge effects by a reduction of the sugar. The slow and mild action of these plants will thus often be made ineffectual and an unnecessary number of failures will result. It is best to use diet restrictions and, if necessary, "Insulin" to stop glycosuria and then to begin with these plants and look for results in a gradual rise of tolerance to additional food or a gradual diminution or disappearance of the need for "Insulin."

In Case IV described in Dr. Nye's series, the patient who had been taking thirty units of "Insulin" daily for some years, had on one day the morning dose of "Insulin" withheld and tincture of vinca substituted. In view of what has been said about the slow action of these plants, this was hardly a fair test and, again, realizing the mild action attributed to them, it is practically asking for the vinca to immediately replace the "Insulin."

In Case III, the dietetic increments and vinca administration went on *pari passu*. The patient was not first standardized and observed for a long period to note any fluctuations. I feel that any beneficial effect from vinca can only be detected if the patients are first standardized and observed for a long period before the vinca is administered.

In Cases I and II the patients were first starved until sugar free and then put on a balanced diet and vinca administered for a week. At the end of a week 50 grammes of glucose were administered and a blood sugar curve plotted. The vinca was discontinued for a week and another curve performed at the end of that time. No difference in the two curves was noticed and it was stated that vinca did not diminish the curve after glucose.

I very much doubt whether "Insulin," under similar conditions, would have the effect that was expected of the vinca. Again, these cases were not examined for a sufficient length of time and the vinca was only administered for one week, which may have also been an insufficient length of time.

Extracts of vinca that we have prepared in the Baker Institute, have no effect on the adrenalin hyperglycemia of rabbits. In dogs our extract has a certain definite delaying effect on adrenalin hyperglycemia. Our investigations will be published at a later date.

Yours, etc.,

A. B. CORKILL.

Melbourne.

November 21, 1928.

"NERVY" TRAFFIC CONSTABLES.

SIR: There seems to be prevalent an erroneous impression that traffic constables on "point duty" work only for two hours consecutively. One has been informed recently by a constable (who, though otherwise fit, complains of being "nervy") that traffic constables work not less than seven hours and sometimes as long as nine hours daily.

With the exception of one hour for lunch, there is no respite from the nerve wracking work.

As a medical man who understands the limitations of the "nerve fibre" under heavy mental strain one shall henceforth view more sympathetically any display of crankiness on the part of the point-duty constable whose displeasure one may incur.

With the busy city street intersections becoming veritable maelstroms of traffic, it would be interesting to learn through your authoritative columns the views of medically trained psychologists on the wisdom of these men having to work long hours without even short spells.

The medical profession realizes that the advent of the motor car meant a big increase in injury to person and loss of life. The best prophylactic for deaths from motor-caused injuries is an efficient traffic constable who will prevent the motor accidents occurring.

Can a cranky constable with his nerves "on edge" be efficient? One fears not, for policemen, like doctors, are human—a fact not generally recognized.

Yours, etc.,

"A MEDICAL MOTORIST."

THE DISPLAY OF DEGREES ON NAME PLATES.

SIR: A medical visitor to Sydney has ever had reason to deplore an extremely vulgar habit of Macquarie Street doctors displaying their degrees on their plates.

During the last few years, owing to the plethora of diplomas issued by various bodies for special branches of medicine and surgery, long series of letters are possessed by some individuals. This results in a ludicrous display and fitting them all on a plate becomes a work of art. No doubt they serve their intended purpose, namely, to astonish the *bourgeois*, for even the initiated have difficulty in construing the significance (if any) of some of the letters.

A recent addition, however, seems to show that the limit is not reached for some practitioners who now display the letters F.C.S.A. after their name. If this is intended to convey the same meaning as F.R.C.S., it can only be said that it is an example of imitation being the sincerest form of insult. Why not put M.B.M.A. on the plate, for entrance to the College of Surgeons of Australasia is obtained in exactly the same way as membership of the B.M.A., namely a nomination and a subscription?

One plate displays the letters F.A.C.S., F.C.S.A., F.R.C.S.E. Why not add F.A.R.C.E.?

Yours, etc.,

"SEQUESTUM."

January 7, 1929.

RAILWAY EMPLOYEES IN NEW SOUTH WALES AND THE WORKERS' COMPENSATION ACT.

THE Secretary of the Railway Commissioners for New South Wales has requested us to publish the following letter which he has addressed to the Honorary Secretary of the New South Wales Branch of the British Medical Association.

SIR: The notes published in the November issue of THE MEDICAL JOURNAL OF AUSTRALIA of the annual meeting of the delegates of the affiliated local associations of members with the Council of the New South Wales Branch of the British Medical Association have been perused by my Commissioners, who have directed me to communicate with you regarding the motion concerning the Railway Department under the heading of *Workers' Compensation Act* on page 571 of the above-mentioned publication.

It would appear from the views expressed by some of the medical gentlemen present at the meeting that a wrong impression exists with regard to this department's position so far as workers' compensation legislation is concerned. In moving the motion to which attention is drawn, Dr. Buchanan is reported to have said that "When a railway

employee meets with an accident, he is given the option of drawing full pay and no further compensation or obtaining benefits of the act" (presumably *Workers' Compensation Act*) and that "in actual practice the men had no alternative but to accept the former."

Actually, the position is that railway and tramway employees have the right to claim full pay under the *Railways Act* during incapacity as the result of injury sustained in the performance of their duty. As an alternative they have the right of claiming payment under the provisions of the *Workers' Compensation Act*. The benefits of both acts have been made fully known to the whole of the staff by means of printed notices and it is quite incorrect to say that in actual practice the employees have no alternative but to accept the full pay allowance of the *Railway Act*.

No interference is permitted with the employees in arriving at their decision as to which act they shall rely upon, and, as an employee is not entitled to compensation payments under both acts in respect of the same injury, the department is not under any liability under the *Workers' Compensation Act* if he elects to be paid under the *Railways Act*.

The Commissioners can only conclude, therefore, that the suggestion that your association should "go to the Government to force the Railway Commissioners to do their duty" is the outcome of a misunderstanding of the dual but alternative liability under which the department has been placed by the legislature, and they would be very glad if you would kindly make their position known to your members.

Yours faithfully,

(Sgd.) W. J. MORRIS,
Secretary.

Office of the Railway Commissioners
for New South Wales,
December 7, 1928.

[The Railway Commissioners are in error when they suggest that the "Association" (presumably the New South Wales Branch) proposed to go to the Government to force them to do their duty. Dr. R. H. Todd pointed out quite clearly in the discussion that it was no business of the medical profession to compel the Railway Commissioners to carry out their obligations to their employees under the *Workers' Compensation Act*. Dr. Buchanan merely stated as his personal opinion that if medical practitioners had certain rights, they would have the right to ask the Government to intervene. His motion, which was carried, was to the effect that the position of the Railway Commissioners in regard to injured workers in connexion with the *Workers' Compensation Act* should be defined. It now rests with the Council of the Branch to consider whether or not it should ascertain what that position is. The Railway Commissioners claim that the provisions of both the *Railway Act*, 1922, and the *Workers' Compensation Act*, 1926, cannot be enforced in respect of the injury of any one worker. Whether this interpretation of the two measures is correct or erroneous can be decided only by a test case in the courts. If the liability is an alternative one, it would be unlikely that an injured worker would choose compensation on the lower scale. As far as members of the medical profession are concerned, neither act has altered their relations to their patients. They must look to the injured worker for the payment of fees for attendance, no matter whether the worker elects to receive full wages under the provisions of the *Railway Act* or the benefits provided by the *Workers' Compensation Act*.—EDITOR.]

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

THE undermentioned have been registered under the provisions of *The Medical Act*, 1912 and 1915, of New South Wales, as duly qualified medical practitioners:

Hughes, Ellen Mary Kent, M.B., B.S., 1917 (Univ. Melbourne), Armidale.
 Kenny, Rawdon Hamilton, M.B., B.S., 1928 (Univ. Sydney), Royal Prince Alfred Hospital.
 Laverty, Colin Robert Moore, M.B., B.S., 1928 (Univ. Sydney), Bexley.
 Lyon, Marjorie Jean, M.B., B.S., 1928 (Univ. Sydney), Royal Prince Alfred Hospital.
 McDermott, Charles Alfred, M.B., B.S., 1928 (Univ. Sydney), 55, Brook Street, Coogee.
 Maclean, James Short, M.B., B.S., 1928 (Univ. Sydney), Chatswood.
 McNamara, Matthew Joseph, M.B., B.S., 1928 (Univ. Melbourne), Saint Vincent's Hospital, Sydney.
 Nolan, Jane Dugmore, M.B., B.S., 1928 (Univ. Sydney), Robertson Road, Centennial Park.
 Osborne, John William, M.B., B.S., 1928 (Univ. Sydney), Sydney Hospital.
 Sender, Isidor Murray, M.B., B.S., 1928 (Univ. Sydney), Bellevue Hill.

For additional registration:

Hardwicke, George Augustus, F.R.C.S. (Edinburgh), 1928.
 Gardiner, Samuel Stoops, Ch.M., 1928 (Univ. Sydney).
 Stayner, Frederick Eastwood, F.R.C.S. (Edinburgh), 1928.

Books Received.

ERYTHEMA NODOSUM: by J. Odery Symes, M.D.; 1928. Bristol: John Wright and Sons, Limited. Crown 8vo., pp. 72 with illustrations. Price: 6s. net.

TREATMENT OF VARICOSE VEINS BY INJECTION: by Victor M. Copleston, F.R.C.S., F.C.S.A., M.B., Ch.M.; 1928. Australia: Cornstalk Publishing Company; Sydney: Angus and Robertson, Limited, Crown 8vo., pp. 54. Price: 3s. 6d. net.

Diary for the Month.

JAN. 22.—New South Wales Branch, B.M.A.: Organization and Science Committee.
 JAN. 22.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
 JAN. 23.—Victorian Branch, B.M.A.: Council.
 JAN. 25.—Queensland Branch, B.M.A.: Council.
 JAN. 29.—New South Wales Branch, B.M.A.: Medical Politics Committee.

Medical Appointments.

Dr. Douglas Ian Hart (B.M.A.) has been appointed Certifying Medical Practitioner at Heyfield, Victoria, pursuant to the provisions of the *Workers' Compensation Act*.

Dr. E. A. Matison (B.M.A.) has been appointed an Honorary Commissioner to inquire into and report upon the methods of detection and treatment of deafness in children of school-going age in Great Britain and the United States of America.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xx.

ADELAIDE CHILDREN'S HOSPITAL: Honorary Clinical Assistant.
 ECHUCA DISTRICT HOSPITAL: Resident Medical Officer.
 ROYAL ALEXANDRA HOSPITAL FOR CHILDREN, SYDNEY: Medical Vacancies.
 ROYAL PRINCE ALFRED HOSPITAL, SYDNEY: Morbid Anatomist and Histologist.
 SYDNEY HOSPITAL, SYDNEY: Clinical Assistant.
 WESTERN AUSTRALIAN STATE PUBLIC SERVICE: Medical Officer of Schools.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	Members accepting appointments as medical officers of country hospitals in Queensland are advised to submit a copy of their agreement to the Council before signing. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
QUEENSLAND: Hon- orary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	All Contract Practice Appointments in South Australia. Booleroo Centre Medical Club.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	All Contract Practice Appointments in Western Australia.
WESTERN AU- STRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	Friendly Society Lodges, Wellington, New Zealand.
NEW ZEALAND (WELLINGTON DIVI- SION): Honorary Secretary, Wellin- gton.	

Medical practitioners are requested not to apply for appointments to position at the Hobart General Hospital, Tasmania, without first having communicated with the Editor of THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, Sydney. (Telephones: MW 2451-2.)

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